University of Alberta

Personal Space of the Brain Injured

by

Anita Maria Kozlowski ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Arts

Department of Sociology

Edmonton, Alberta

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled PERSONAL SPACE OF THE BRAIN INJURED submitted by ANITA KOZLOWSKI in partial fulfilment of the requirements for the degree of MASTER OF ARTS.

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ABSTRACT

This study explores whether brain damage has an impact on a person's "personal space", defined as "the area individuals maintain around themselves into which others cannot intrude without causing discomfort" (Hayduk, 1989 p.293).

The study examines the following questions: What are the parameters of personal space of the brain injured? What happens to personal space when subjects act as approachers? What internal cues do the brain-injured rely on to perceive an invasion of personal space?

27 subjects participated in this study, including 9 control subjects and 18 brain injured subjects. They were interviewed about their spatial preferences and subjected to three tests of spatial orientation and a personal space measurement test.

There were significant differences between the control subjects and the brain-injured subjects, including their performances on the spatial orientation tests and the results during the personal space measurement test.

The study examines possible reasons for these differences.

DEDICATION AND ACKNOWLEDGMENT

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I. INTRODUCTION

A. The Concept of Personal Space

Various definitions of personal space are now in use. Little (1965, p.237) defines personal space as "the area immediately surrounding the individual in which the majority of his interactions with others take place". According to Sommer (1969, p.26), "personal space is an area with an invisible boundary surrounding a person's body into which intruders may not come". It has no fixed geographic reference points but it is seen as expanding or contracting as conditions vary (Sommer, 1959). According to Rawls, Trego and Mcgaffey (1968 p.1), personal space " appears to represent a threshold of acceptable distance between two or more individuals". Goffman (1971, p.30) defines personal space as "the area surrounding an individual within which an entering other causes the individual to feel encroached upon, leading him to show displeasure and sometimes to withdraw". Hayduk (1983) conceptualizes personal space as "the area individuals maintain around themselves into which others cannot intrude without evoking some arousal reaction, usually discomfort, anxiety and flight (p.287)". All these authors conceive of personal space as an invisible area extending out from a person's body, with the outer boundary of this space (or volume) being marked by the onset of anxiety or stress as an approacher suddenly becomes an "intruder".

Felipe and Sommer's (1966) studies demonstrate that spatial invasions do indeed increase the likelihood of flight, withdrawal and reaction. Other research has closely examined the social factors influencing the size of personal space, as well as the social responses to spatial invasion. Discomfort, anxiety, withdrawal, aggression, and the use of compensatory behaviors are typical responses to spatial intrusion. However, by focusing on the social aspects of personal space, the research has been neglecting its perceptual and cognitive aspects. No one has studied personal space of the deaf or those whose sense of smell is absent. From the study of both the totally blind and partially blind (Hayduk and Mainprize, 1980), it appears that reduced visual functioning produces no systematic changes in spatial preferences. In contrast, blindfolding sighted individuals or having them close their eyes increases spatial requirements (Hayduk and Mainprize, 1980). Very little is known about the personal space of psychotics and the mentally retarded. It is known that large personal spaces are characteristic of aggressive and delinquent individuals (Hayduk, 1983).

Nothing is known about the spatial preferences of persons whose organs of perception are intact, but whose spatial orientation is disturbed. What happens to personal space when an individual suffers from one or more of the following spatial orientation deficits: the inability to estimate distances between objects, the inability to determine the distance of objects from one's body, the loss of orientation in space, problems with topographically locating one's own body parts (often referred to as body schema disorders), the loss of topographical memory, and unilateral or bilateral neglect? Nothing is known about the physical dimensions and experiences of personal space of those who suffer from these often overlapping disorders. Is it unusual in terms of its size and shape? How permeable is it? What cues, other than spatial orientation, do persons suffering from these disorders rely upon when "deciding" to react to invasions of their personal space?

In an attempt to gain some preliminary answers to these types of questions, this study compares the spatial behaviour of brain injured and "normal" respondents. On the following pages, we discuss the visuospatial and spatial orientation disorders which were of particular interest, though we had no way of guaranteeing that the brain injured respondents who agreed to participate would suffer from these disorders.

B. Visuospatial Disorders

In 1919, Holmes and Horrax described the clinical aspects of visual disorientation following posterior parietal gunshot wounds, which included: a) perceptual spatial deficits (such as problems with absolute and relative localization of objects placed behind the person), b) unilateral spatial neglect (lack of response to objects on one side of the visual field), c) deficit or loss of topographical memory, and d) Balint's syndrome (manifested by psychic paralysis of gaze, optic ataxia, and impaired visual attention) (Benton, 1983). We will now briefly describe each of these phenomena.

1. Perceptual Spatial Deficits

Disorder of absolute localization manifests itself in the patient's inability to determine the spatial position of objects in relation to their own body. The estimation of distance and direction may also be affected: while trying to grasp or to touch an object near him, the patient projects his hand far beyond it. In 1978, Walsh observed that perceptual spatial deficits are almost always accompanied by a loss or deficit in topographical memory (also see Hecaen et. al. 1952).

2. Unilateral Spatial Neglect

Similar terms for this disorder are: imperception, hemi-inattention, unilateral spatial agnosia and visuospatial neglect (Brain, 1941; Heilman, 1979). Persons with this disorder ignore one half of their visual space: they attend to events and notice people only on one side. In 1953, Critchley reported the case of an orchestral conductor who ignored the musicians on one side of the platform, while Frederiks (1985) reported the case of a patient, who when asked to pick up some coins spread over a flat surface, failed to pick up coins on the left side. As documented by Frederiks (1985), unilateral neglect of space is also manifested by inappropriate responses to tactile and auditory stimuli. In 1979, Heilman described two components for neglect in both man and animals: a deficit in arousal and a deficit in attention.

This disorder results mainly from right-sided parietal lesions in humans, but it may also result from lesions in the right anterior frontal convexity and ingulate gyrus and lesions in homologous cerebral areas (Gloning, 1982). Although neuropsychological studies show that unilateral spatial neglect occurs with both right and left hemisphere lesions, this disorder is more profound when originating from the right hemisphere (Chain et al. 1979).

3. Defect or Loss of Topographical Memory

In 1979, Benton described the following symptoms as the loss of topographical memory: a) an inability to recall the spatial peculiarities of familiar surroundings such as the spatial relations between the rooms in one's house; b) an inability to describe how one would travel from one point to another in one's own town or from one town to another; and c) the inability to locate the cities of one's own country on a map.

The main neuropsychological studies which assessed topographical disorientation and defects in topographical memory were documented in 1978 by Walsh, who found that the most frequent reports of topographical memory disorders occurred after posterior lesions.

4. Balint's Syndrome

In 1909 Balint described the following manifestations of this syndrome: psychic paralysis of gaze, optic ataxia, and impaired visual attention. Psychic paralysis of gaze is the patient's inability to displace his gaze voluntarily from the point of fixation in his peripheral visual field. Optic ataxia consists of a difficulty in reaching toward a target under visual guidance. Other terms for optic ataxia are "eye-hand discoordination" and "misreaching" (Walsh, 1978:73).

Impaired visual attention, which is also described as the loss of visual image, is known as the Charcot-Wilbrand Syndrome (Critchley, 1953). Patients with this disorder have lost their ability to visually represent in their minds objects such as faces, routes and houses. They often suffer from the cessation of dreaming (Botez, 1985).

II. AREAS OF THE BRAIN GOVERNING SPATIAL PERCEPTION

The central role of the posterior parietal lobe in spatial perception is now well documented by ablation studies and microelectrode recordings of memoral activity (for a detailed review see Hyrarinen, 1982; Botez, 1985). Hecaen and Albert's 1978 studies on body schema disturbances lead to the conclusion that right hemisphere functional representation is concerned mainly with the contralateral side of the body, and left hemisphere functional representation is concerned with both sides of the body. Some forms of right-left disorientation are associated with right parietal disease (Benton, 1979).

In 1979, Benton observed that disorders of localization of objects in space result mainly from right hemisphere lesions. However, in the 1972 study of Ratcliff and Jones, patients with posterior parieto-temporo-ocipital lesions in either hemisphere performed defectively. These conflicting results indicate that a distinction must be made between the absolute localization of a stimulus in relation to the observer, and relative localization involving the spatial relationships between two stimuli as seen by the observer. According to Benton (1979), the right hemisphere mediates only the relative localization abilities.

Benton's 1979 study assessing the senses of direction and distance showed a definite right parieto-temporo-ocipital dominance of direction and distance.

A. Spatial Orientation Disorders

1. Disturbances in Body Orientation

Disturbances in body orientation tend to be associated with lesions in the parietal cortex (lesions may be caused by tumors, epilepsy, infections or cerebral vascular disease). These disturbances may vary in severity, be located in a different area of the cortex, and involve various subcortical structures. The parietal cortex interprets multisensory information as well as controlling the motor mechanisms involved in bringing to attention events occurring in the periphery of the perceptual field (Critchley, 1953). "It functions to direct and guide movements in the immediate vicinity of the body (p.175)."

Disorders of body orientation can be classified into: 1) unilateral disorders affecting one side of the body contralateral to the lesion (e.g. nonconscious hemiasomatognosia [1] and anosognosia for hemiplegia, also known as Anton-Babinski Syndrome [2]; 2) bilateral disorders such as conscious hemiasomatognosia;[3] and 3) Gertsmann Syndrome. [4] Disorders of the body schema resulting from lesions of the dominant hemisphere are bilateral and usually of the agnosic type. Those caused by lesions of the nondominant hemisphere are unilateral, affecting only one side of the body, (for a review see Frederiks, 1985, Botez, 1985).

2. Conceptions and Disorders of the Body Schema

The discovery, decades ago that there is such a thing as a permanent flawed perception of one's own body, was made by observation of its pathological manifestations in the clinic (Fredericks, 1985). Therefore, the majority of publications on this subject concern the pathology of the body schema. Although there is no consensus on the nature and genesis of the normal body schema, most authors attach significant value to the role played by previous and current sensory information about one's own body. Some authors such as Zubek (1970), Head and Holmes (1911) and Fredericks (1985) stress visual factors and vestibular influences, while others such as Pailard (1982) emphasize psychological factors. Zubek (1970) believes that normal modulations of attention and consciousness play a major role. Clinical and experimental data support arguments for the presence of these various elements. Reviews are provided by Wagner and Werner (1965), Fredericks (1969), Zubek (1970), Melzack and Bromage (1973), Pailard (1974), Gross and Melzack (1978), Hecaen and Albert (1978), and McCrea et al. (1982).

The term "body schema" is used for the awareness of the spatial characteristics of one's own body (Fredericks, 1985). Although there are different degrees of awareness concerning various body parts, this awareness is essentially vague, since it is only peripheral and schematic. The term "body schema" is used interchangeably with many other terms such as body image, body concept, body percept, somatognosia, image of the body ego, corporeal awareness and postural model.

There is a great deal of misconception and confusion about the body schema conception in the light of the absence of a clear distinction between body schema and body experience. The term body schema is used for the awareness of the spatial characteristics of one's own body, and this is formed by current and previous sensory information (Critchley 1953). The term body experience is, however, more comprehensive, as it includes psychological and situational factors as well as current conditions and intentional factors. The body schema is a fact of perception, whereas body experience is a fact of psychological process (for which body schema is a

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[1] This is a permanent disorder where the patient looses the awareness of one body half which may be paralyzed. The patient behaves as if one half of his body did not exist (Botez, 1985 p.69).

[2] The term means "imperception of illness". The syndrome is characterized by the fact that the patient can in no way be convinced that he is hemiplegic. The patient often declares that his left arm or leg belongs to some other person. He may also perceive to have more than the normal number of limbs.

[3] Patients suffering from conscious hemiasomatognosia spontaneously report having lost the perception of one of their body parts. This disorder is not permanent.

[4] The syndrome manifests itself by finger agnosia which is characterized by the patients' inability to recognize, identify, differentiate, name and choose fingers on one's own and others' hands (Botez, 1969), as well as by the inability to differentiate between the left and right side of the body(Botez, 1985).

prerequisite), but in which the constructive factors are determined by situational factors, and the personality and emotional makeup of the individual (Critchley 1953). Both concepts are strongly associated with visuo- spatial orientation, "a process in which visuotactile senses play a chief part, but which also includes impressions of auditory, vestibular and olfactory type, and which is an intellectual operation of synthesis and deduction which takes place with great rapidity at an unconscious level" (Critchley 1953, p.172). "It functions to direct and guide movements in the immediate vicinity of the body" (Critchley 1953, p.175).

B. Research Questions

Thus far we have discussed the concept of personal space, and various spatial disorders brought on by brain injuries which may influence personal space of the brain injured. We now consider the research questions addressed by this investigation:

First, given that no personal space investigations to date have examined brain-injured subjects, a crucial question is: do brain injured persons have a personal space?

Second, if they do, how does the personal space of the brain injured differ from the personal space of "normal" people? Specifically, what is the size, shape and permeabilities of the personal space of the brain injured? ("Size" refers to the minimum distance preferred by a respondents. "Shape" refers to whether that minimum distance is the same in all directions. "Permeability" refers to the ease with which a personal space is intruded upon. A highly permeable personal space is easily intruded upon, while a less permeable personal space would be characterized by a much stronger discomfort accompanying a comparable intrusion.)

Third, is there a relationship between the respondent's ability to estimate distances and the distance at which personal space discomfort arises?

Fourth, what are the internal cues that the brain-injured persons rely on when deciding that they feel uncomfortable about the invasion of their personal space?

Fifth, do persons with cortical deficits alter their preferred frontal distances when they turn their heads, similar to the decrease observed for normal persons?

And finally, is the experience of personal space similar if the subject acts as an approacher or target person, and how is this experience different for brain-injured persons and the control subjects?

Chapter two describes the groups investigated, and the interview schedule, as well as measurement procedures that were designed to let us investigate these questions.

III. METHOD

In this chapter we describe the respondents who provided the data, the interview schedule and questionnaire, the spatial orientation tasks, and the Stop Distance Procedure.

A. The Groups Investigated

Two groups were investigated in this study: 18 brain injured respondents interviewed at the Northern Alberta Brain Injury Society (NABIS), and 9 students and staff from the Department of Sociology at the University of Alberta.

1. Screening

The initial criteria for choosing the brain-injured respondents were:

1. The respondents had to have suffered some brain injury, preferably damage to their parietal cortex. Because of a lack of subjects with this type of injury, we used the entire available population of respondents at the NABIS centre.

2. They had to be able to communicate verbally and comprehend verbal directions. All the respondents met this criterion.

3. They had to be able to see clearly. Two respondents did not fully meet this criterion: one was blind in the left eye, while the other was extremely short sighted.

4. They should not suffer from degenerative diseases such as Alzheimer's Disease, Multiple Sclerosis etc. (which could mask the effects of brain injury on personal space). However respondent no. 3A was diagnosed with the initial stages of Multiple Sclerosis.

5. They should be able to stand unaided. One respondent used wheelchair.

2. Brain Injured Respondents

Volunteer subjects were recruited from the Northern Alberta Brain Injury Society (NABIS), in Edmonton, Alberta. NABIS is a non profit organization whose mandate is to help the brain-injured and their families "deal" with "life stresses" caused by brain injury, as well as to provide information about the available counseling and vocational programs for the brain injured. The centre provides the brain injured with group and individual counseling, organizes activities such as pottery, painting and games, as well as occasional trips to shopping malls or restaurants. The NABIS staff also assist the brain injured with finding an apartment, if needed and inform them about vocational counseling and community programs.

The centre occupies five rooms on the ground level of a suburban high-school. The games room and crafts room are classroom size. One large room is divided into three sections: a small office space, counseling corner and a main lunch area.

The centre employs five staff members: the director, two administrators (one of them brain-injured) who also serve as informal counselors, and two counselors. One counselor conducts weekly counseling sessions, organizes "group talks", and helps with administration. The other provides informal individual counseling, and also helps with administrative duties. The staff at NABIS are very committed to their work and emotionally involved with the problems of their clients whom they treat almost like their own family. They talk about them with affection, hug them for encouragement and are often aware of, and concerned with their personal lives. This involvement was demonstrated when one of the counselors invited a very depressed member to live with her family for several weeks, before he became a permanent resident in one of the auxiliary hospitals. The brain injured reciprocate these feelings and treat the staff as their own extended family. Some members even say that "NABIS is the only family they have". According to staff, one the most important functions of the center is "provision of a place where brain injured feel accepted and respected" Between 10 and 20 brain-injured individuals of both sexes and widely varying ages visit NABIS regularly. Some appear almost daily, while others visit the centre at weekly intervals or only occasionally.

On the average, the brain injured had some high school education, some members hold trade diplomas which they received before becoming brain injured. None of them is able to hold a full time job, and all receive permanent disability pensions. They can communicate and function well with the help of NABIS staff or a guardian who typically take care of their financial affairs, shopping and banking.

There is no common denominator to their brain injuries or to the length of time since they were injured. Most of these injuries were sustained in motor-vehicle accidents and a few resulted from ruptured aneurysms. All the brain-injured subjects were unconscious after receiving their injuries, and their "recoveries" lasted anywhere between two months and two years. The lasting symptoms of these injuries include cognitive difficulties such as various types and degrees of memory loss, inability to read and/or write, difficulty with spatial orientation, and the inability to comprehend abstract concepts, and personality problems such as mood swings, apathy and depression or occasional aggressiveness. Some of them must use "memory books" to keep track of their daily activities and "things to remember".

Of the 20 NABIS participants who were approached with a staff-communicated request for volunteers, 18 responded favourably. One person refused to participate, while another was not available when the experiment was in progress.

3. Control Respondents

The control group consisted of 9 subjects recruited from the sociology students and staff at the University of Alberta. There were 5 women in their early thirties who work for the Department of Sociology, 3 male sociology students in their late twenties and early thirties, and a thirty two year old male research associate from another department in the Faculty of Arts.

B. The Questionnaire, Spatial Tasks and Stop Distance Procedure

The data for the respondents was obtained during 40-minute interviews conducted in specially prepared rooms. We would have preferred to interview both groups in the same setting, but had to use two different locations because it would have been too difficult to arrange for the brain injured to come to the university where the control subjects were interviewed. The university setting was located in the Center for Behavioral Research at the Department of Sociology. This 7x10 metre room has a low ceiling, is carpeted, sound proofed and separated from the rest of the building by a waiting room and a small hall. It has a few chairs and long, folding tables, most of which were folded and stacked along the walls, leaving the centre of the room clear for the Stop Distance Procedure. One wall had thick drapes covering one way mirrors. The resulting impression of the setting was that of isolation, confinement and bareness. Upon entering this room, one could immediately "feel" that this place served a limited purpose and could hardly be used simply to relax. Most subjects had been in the room previously since it is occasionally used for departmental social gatherings but only one of the subjects had used the room frequently. He conducted his research there. The subjects did not like this setting, particularly complaining about the lack of windows. Upon entering the room, some subjects seemed slightly intimidated, tense or "out of place". However, this could also be attributed to their "fear" of the unknown and of perceived "expectations".

Data on the brain injured subjects was collected in two parts of the large rooms at the NABIS centre. The questionnaire and the paper and pencil tests were completed at a table that normally served as the main lunchroom table at NABIS. The stop distance measurements were obtained in a 5x5 meter section of the lunch-room that was separated from the rest of the room by mobile partitions. Both settings had natural light, a tiled floor and a high ceiling. Noises from outside and from other sections of the room were often audible.

The respondents liked this setting, and were comfortable because they spend a lot of time at the NABIS Centre and in this room. The setting was not totally normal however, because the furniture and the partitions were rearranged to provide an open area for the stop distance procedure.

Dr. Hayduk observed the stop distance procedure from a chair positioned slightly behind and to the left of the subjects. This location was as unobtrusive as possible and it corresponded as closely as possible to the position taken by Dr. Hayduk during data collection at the university. Because the NABIS room was smaller than the room at the university, Dr. Hayduk sat closer to the rear left of the NABIS subjects than to the university subjects. However no one seemed bothered by his presence.

The interview consisted of three parts: 1) twelve questions about the respondents' current and desired spatial behaviour, 2) three topographical orientation tasks: the Road Map Test of directional sense, the Body Part Orientation Test, and the Block Test of Distance Estimation; and 3) the "Stop Distance Procedure"; concluding with few questions about the respondents' perceptions of the experiment.

The instructions for these tasks are outlined in Appendix D, and the discussion of these is included in the next section.

Topographical Orientation Tasks

1. The Road-Map Test

A Road-Map Test of directional sense was devised by Money, Alexander and Walker (1965) to evaluate right-left discrimination in extrapersonal space. It consists of a map of several city blocks on which a route, including a series of turns has been drawn. The map is placed in front of the subject and cannot be turned. The subject imagines walking along a path, and must say at each corner whether he would be turning to the left or right. Although the subject does not actually move, he must monitor his orientation in extrapersonal space and verbalize his change of direction, taking body rotation into account. Alexander and Money (1966) reported that this test is sensitive to difficulties in space orientation, shown by females suffering from Turner's Syndrome. Butters, Soeldner and Fedio (1972) gave this test, in conjunction with a test requiring rotation of objects in space, to patients with parietal, temporal and frontal lobe damage. Subjects with right parietal damage made considerably more errors than subjects from the other groups.

In this study, the map required only five turns (see Figure 2.0, appendix A). We assumed that our shortened version of the test would not be as demanding for the subjects but would still give an adequate indication of the subject's ability to differentiate between right and left, as well as some indication of their orienting abilities.

2. Body Part Orientation Test

Autotopagnosia was first observed by Pick (1908) in patients with generalized brain damage, and then by DeRenzi (1982), in patients with lesions of the left hemisphere mostly encroaching upon the parietal lobe (Botez, 1985). It manifests itself by the "inability to point to one's body parts" (p.200) as well as to body parts on human pictures or other people.

The full Body Part Orientation Test requires subjects to name the experimenter's body parts (when pointed to by the experimenter), to point at their own and the experimenter's when named by the experimenter, as well as to describe the relative positions of various body parts (De Renzi, 1982). To shorten the procedure, our subjects were asked to name only seven body parts when the experimenter pointed to them on a picture (the left eye, the right arm, the left leg, the right eye, the left arm, the right ear, the left ear), and to point to six of their own body parts when they were named by the experimenter (the mouth, the right arm, the left leg, the right ear, the left eye, the right eye). This test indicated whether the subject has difficulty with understanding the names of body parts as well as locating them topographically.

3. The Block Test of Distance Estimation

This test was designed by us to assess the subjects' ability to estimate distances of objects within the radius of one and a half metre from the respondent. Subjects were seated at the head of a 150 cm. long table, on which a 10x10x10 cm. cardboard block was placed. A cardboard barrier temporarily obscured the subject's view of the block as the researcher moved the block to each of a series of predetermined distances. For example the block would be placed at a distance of 30 cm. from the subject. The barrier was then removed and the subject was asked to estimate how far the block was from the subject's end of the table. The researcher recorded the subject's response in the Metric or British System units, whichever the subject provided spontaneously. The block was placed consecutively at the following distances: 90 cm., 30 cm., 120 cm., 60 cm., 150 cm., 120 cm., 30 cm., 90 cm., 150 cm. and finally at 60 cm. The repetitions were to control for intrasubject variability in the estimation of distances. We assumed that all subjects would exhibit some degree of error but the magnitude of this error would be greater among the brain injured.

4. Measurements of Personal Space

Personal space was measured using a modified version of the Stop Distance Procedure originally developed by Kinzel in 1970, and discussed in Hayduk (1983 p.294). The procedure consists of the researcher walking slowly towards a standing subject until the subject begins to feel slightly uncomfortable about the researcher's closeness. At that point, the subject halts the researcher by saying "stop". A distance measurement is read from unobtrusive markings on the floor and the researcher withdraws to the "rest" distance of 2 metres to prepare for the next approach. This procedure is based on the notion that personal space is an "invisible" area extending outward from the body, and that it is delimited by the onset of stress and anxiety. Even though obtrusive, this procedure demonstrates high reliability and validity (see Hayduk, 1985). The female researcher (58kg, 179 cm. tall, 27 years of age) approached the subject with slow, short steps, while maintaining a neutral facial expression and gazing at the subject's chin. When asked to stop, she placed her feet squarely beneath herself, glanced at the distance marking at the tip of her toes, recorded the distance and then retreated to the two meter rest distance.

Respondents stood over a red dot marked on the floor from which extended a scale with centimeter markings in 5 directions: frontal, left, front-left, right, front-right. The dot (located between the respondents' feet) constituted a "zero point" for measuring the stop distances. We assumed that it roughly marked the centre of the respondent's body. The red zero mark and a rectangular box the size of foot prints provided a stable orientation point, helping the respondents centre their bodies for all measurements. Both the box and scale were taped to the floor. Approaches from the different directions determined the "shape" of personal space.

The following distance measurements were obtained from each respondent. First there was a single frontal "warm-up" approach to familiarize the respondent with the procedure and this was followed by a "real" frontal and a repeat of "real" frontal measurement. Next, came approaches from the four remaining positions: front-left (with a repeat), left, right and right-front (with a repeat).

The next condition required that the respondents turn their bodies 90 degrees to their left but keep their heads turned in the direction of the researcher who was approaching from the previously frontal position. For this approach the stopping criterion was changed so that the subject was to stop the approacher at the point of beginning to feel very uncomfortable. Next came another approach to "very uncomfortable" but with the subject turned 90 degrees to their right, so that they were looking over their left shoulder.

Following this, two more direct frontal approaches were made, one to "very uncomfortable" and another to "slightly uncomfortable".

In the final condition, the respondent switched roles with the researcher so that a mobile subject approached the stationary researcher. The subject still used the slightest onset of their own discomfort as the stopping criterion The subject was in full control of the interpersonal spacing.

At various points during the personal space measurement task, the subjects were asked to estimate the distance remaining between themselves and the researcher and/or to report on their thoughts and experiences. Unusual or atypical responses were probed and occasionally an extra set of distance measurements was made in order to pursue ideas suggested by the subjects' statements.

After the completion of the stop distance measurements, the subjects reported about their impression of the study procedure, and were encouraged to ask questions about the experiment. Since there was no deception in the study, minimal debriefing was required.

The interview concluded by reaffirming that the subject consented to the use of the data, and determining which subjects wanted a summary of the ultimate research results.

Dr. Hayduk was present during all distance measurements, and sat behind (and to the left) of the subjects where he would be out of view but still able to read and record replicate of each distance measurement. Both the researcher's and Dr. Hayduk's measurements are provided in Appendix F.

IV. DISCUSSION OF FINDINGS

The following discussion includes the control respondents' profiles, a brief and an analysis of the most unusual responses. Fictitious names are used for confidentiality.

A. Profiles of Control Respondents

1. Subject No. C1 - Dale

Dale is a Ph.D. student in the Department of Sociology. He is 30 years old, roughly 6 ft. tall and of medium build. His outgoing personality and good sense of humor, combined with an attitude that "no one should take life problems too seriously" win him many friends. Dale is known as a "party person" who enjoys a few beers but always manages to "pull himself together" when writing the most difficult exams. During the stop distance task, he frequently laughed, saying that "the small steps reminded him of the gait of Chinese women with bound feet". He seemed somewhat intimidated by the procedure, and we felt that he laughed to "cover" uneasiness about the procedure. However there was nothing unusual about his spatial preferences, which were typical. Dale's personal space was about 55 cm.

2. Subject No. C2 - Donny

Donny is a doctoral student in the Department of Sociology. He is 30 years old, roughly 6 ft. tall and of medium build. He is work orientated, quiet, introspective and seems very serious. During the stop distance task, he seemed nervous commenting that, he found the "small steps" funny. His personal space was about 60 cm.

3. Subject No. C3 - Tony

Tony was a Master student in the Department of Sociology, recently admitted to the Ph.D. program in Experimental Psychology at a prestigious American university. He is 30 years old, about 6 feet, 3 in. tall and very slim. He seems quiet, introspective and disinterested in social activities. Tony "likes to keep his distance" from strangers. His warm personality becomes apparent after some time. Tony approached the stop distance task with the main concern of providing an accurate data. He describes himself as a Behaviorist who experiences difficulties describing his feelings. He attempted to explain feelings in terms of behaviour, as his philosophy leaves no room for abstract and empirically indefinable concepts such as feelings. He displayed frustration with our questions that frequently began with why, or what. His personal space was around 55 cm.

4. Subject No. C4 - Chris

Chris is a research associate in another department in the faculty of Arts. He is a sturdily built, 32 year old emigrant from Europe with a heavy accent. He seems to be outgoing and strikes one as a loud person who frequently bursts into laughter, jokes around and flirts with women. He maintains a very small interpersonal distance. He explained this as early childhood "conditioning" when he shared a small apartment with a large family. During the stop distance task he allowed the researcher to approach him very close, remarking that he never felt uncomfortable about her closeness. His only concern was accidental bumping of noses. His personal space was around 25 cm.

5. Subject No. C5 - Kathy

Kathy is 34 years old, 5 feet, 4 inches tall, very slim and quiet. She often admits "hating" crowds or standing too close to others, even if they are friends or family. Cathy fears crowded elevators and prefer to take stairs, even several floors. Her behaviour during the stop distance task was consistent with these claims. She demonstrated relatively large spatial preferences, reporting the onset of discomfort very early in all the approaches. Her personal space was around 90 cm.

6. Subject No. C6 - Sandy

Sandy is 35 years old, slim and stands about 5 feet, 5 inches. She is an outgoing, laughing person who, nevertheless manifests dramatic mood swings. She felt "out of place" during the stop distance task, but demonstrated average spatial preferences. Sandy's personal space was around 55 cm.

7. Subject No. C7 - Vicky

Vicky is a bubbly, outgoing, attractive 31 year old, about 5 ft. 5 in. tall. Like Sandy, she felt somewhat intimidated by the stop distance task, but this feeling gradually diminished. Her spatial preferences were average (around 57 cm.), however during the second half of the spatial task, her personal space became smaller (around 45 cm.).

8. Subject No. C8 - Terry

This subject unexpectedly requested withdrawal of her data just prior to completion of the thesis. The withdrawal of her data did not effect the overall results.

9. Subject No. C9 - Rena

Rena works at the Department of Sociology. She is 37 years old, about 5 feet, 5 inches. tall and of medium build. She is a quiet, non-talkative person who nevertheless projects warmth and makes friends easily. During the spatial task she was relaxed and tried hard to report all her thoughts and feelings. Her personal space was consistently smaller than average (around 37 cm.).

B. Summary of Control Respondent Reports

The control subjects performed well on all the tasks. They understood directions and questions, providing well thought out responses. Their estimates on the distance estimating tasks were accurate, usually within a 10% error. Their personal space measures showed inter-subject variations.

Individual personal space typically remained unchanged throughout the procedures, with a slight tendency to" shrink" during the second half of the experiment. This could be attributed to increased familiarity with the experimenter and the procedures. Below is the summary of the subjects' reports of their feelings and experiences during the experiment:

1 All subjects found it difficult to describe their feelings during the stop distance procedure. The most common statement was that "they felt it was the right time to say stop". Usually the urgency to say stop gradually increased, to the point of critical intensity. Some respondents, however, experienced a sudden onset of the "feeling". We had no tools to measure the degree of discomfort in each respondent, thereby comparing the intensity of individual experiences.

2 The main focus seemed to have been the experimenter's gait and facial expression rather than the experience of the situation.

3 Some respondents reported an intense fear of being accidentally touched, saying that they were not afraid of "pre-warned touching". Some were distrustful of the "intentions" behind the stop distance procedure.

4 A few subjects said "stop" at a point just before the boundary of discomfort. In other words they felt that one more step towards them by the experimenter would create discomfort. It is difficult, however, to differentiate between the real experience of discomfort and the apprehension just before "real discomfort". We chose to treat the direction to "stop" as demarcating the boundary of discomfort, regardless of whether the subjects defined it as real discomfort or an anticipatory experience. We suspect that there was a difference in the definition of discomfort

5 All the university subjects had a smaller personal space to the sides of the body than from the front, which they explained by appealing to social acceptability of maintaining smaller interpersonal distance when side by side.

6 When approaching the experimenter, most of the subjects' interpersonal distance decreased by about 15 percent, compared to distance when the experimenter was the approacher. They felt "more in control", "more in command" and "not under as much pressure".

7 They reported two criteria for saying "stop": the physical discomfort of being too close to another, and the desire to conform to the social norms defining the minimum acceptable interpersonal distance. We find it difficult to differentiate between the physical discomfort and the discomfort caused by holding a particular belief. The quality of the experience itself remains probably the same, but the label assigned to it varies from subject to subject. Some respondents reported feeling uncomfortable without consciously estimating this distance, while others felt uncomfortable on the basis of their distance estimation. The latter generally displayed a larger personal space.

C. Summary of Brain Injured Respondents Individual Brain Injuries and Symptoms

Table 1 - Individual Brain Injuries and Symptoms, as Reported by NABIS Staff and Residents

Subject		Reported Brain Injury and Location of Damage	Reported and Observed Symptoms
Number	Name		
B1	Ken	Left temporal lobe result of stroke	Long term memory loss, irritable, concentration problems, inability to estimate distances,
B2	Larry	Left temporal lobe	Short term memory loss, childlike disposition, depression, cognitive problems, mood changes, inability to learn new material
B3	Francois	Right temporal lobe damage, Multiple Sclerosis.	Loss of dexterity, ability to read and write, fatigue, spatial disorientation, problems with balance
B4	Darwin	Frontal lobes and left temporal lobe	Anger outbursts, memory loss, disturbed sense of balance, speech impairment, spatial problems
B5	Rick	Damage resulting from a prolonged oxygen deprivation resulting from a massive heart attack	Emotional instability, short-term memory loss, speech problems, inability to read and write, impotence
B6	Sarah	No report	Spatial disorientation, memory loss, hyper-sexuality, balance problems
B7	Ardis	Frontal lobes and right temporal lobe	Loss of social skills, short-term memory loss, speech problems, headaches, depression, hyper-sexuality (promiscuity)
B8	Harry	Frontal lobe	Depression, short-term memory loss, flat affect intermittent with crying spells, speech problems
B9	Ursula	Right temporal lobe	Hyper-sexuality, memory loss, (both short and long term), loss of the sense of direction
B10	Ron	Frontal lobe	Short and long term memory loss, spatial disorientation, melancholy

Table 1 (Continued) - Individual Brain Injuries and Symptoms, as Reported by NABIS Staff and Residents

Subject		Reported Brain Injury and Location of Damage	Reported and Observed Symptoms
Number	Name		
B11	Mel	Frontal lobe, left temporal lobe	Speech problems, memory loss, spatial disorientation, speech problems, disturbed balance, limited use of left hand, irritability, violence, flat affect, sexually inappropriate behaviour.
B12	Joe	No report	Lack of emotional affect, scattered conversation, unrealistic expectations, no moral judgment.
B13	Rod	Left temporal lobe	Slight memory impairment, difficulty with reading and writing, linguistic difficulties
B14	Barry	Aneurysm in the left temporal lobe	Partial short-term memory loss, inability to write, reading difficulties
B15	Jeff	Frontal lobes, corpus callossum	Memory loss, childlike, moodiness, violence when touched, pain when touched, severe mood swings
B16	Donald	Frontal lobes, right temporal lobe	Short term memory loss, anger episodes, inability to estimate distances, difficulty naming body parts, pointing to body parts and naming directions, vision problems.
B17	Betty	Right temporal lobe	Memory loss, spatial disorientation, no dexterity, lack of verbal fluency, no sense of direction, depression, irritability.
B18	Dale	No report	Exaggerated affect, hyperactive

D. Profiles of Brain Injured Respondents

The following descriptions of the brain injured respondents are partly based on information provided by the NABIS staff, partly on the fragmentary medical information kept in the NABIS files, but mostly on our observations of the respondents. In addition to conducting the experiment at the centre, we spent many extra hours there talking with the respondents, eating lunch with them, and observing them interact with each other. This extra time allowed us to get to know and like these people and get the feeling of the place.

1. Subject No. B1 - Ken

Ken is a 36 year old, 5'-9" tall, stocky man, with a round face framed by short, curly brown hair. He has a friendly disposition marked by the tendency to "joke around", pat people on the shoulders, smile and tell stories. He works at the NABIS centre, being actively involved with administration, organizing centre activities, as well as helping other members and their families cope with the problems brought on by brain injury. Ken is a very energetic individual who walks and talks fast. People at the centre often say that "he seems to be everywhere at all times". They like him for his cheerfulness, sense of humor and willingness to help. Throughout our work at the centre, we could not observe anything that would distinguish Ken from a "normal" person. To a bystander, he does not seem to display any of the typical symptoms associated with brain injury. The only problem he admits having is a total long term memory loss resulting from a massive stroke two years ago. "His family are strangers to him" which makes him very sad. Those who work with him mentioned that at times "he is sluggish in shifting attention, tending to focus on one thing as though other people or things don't exist for him". Our experience of working with him was positive. His responses were coherent, introspective and somewhat like those of the control subjects. He was helpful, willing to talk about his experiences, and honest about them.

2. Subject No. B2 - Larry

Larry is a 25 year old, 6 foot tall, slim man with curly, shoulder length hair. Wearing faded jeans, T-shirts and sandals, he has the image of a "flower child" of the late sixties. Two years ago, a large tumor was removed from his left temporal lobe. Following the operation, Larry's personality changed. He became very tense and irritable, prone to crying spells and mood changes. His hands shake slightly but continuously, and he seems unable to focus his gaze for longer than three seconds. He often laughs nervously, particularly when confronted with questions but he gives logical and coherent answers. His speech is very fast and fluent with no grammatical or word-use errors. Larry's main problem is memory loss. His recollection of events before the operation is fragmentary and scattered. He seems lost when asked about details from his past. His short-term memory is even poorer. Larry has difficulty with learning new material, and has forgotten how to read and cannot write or perform simple arithmetic operations. He does not remember appointments, cannot plan and lacks foresight. He lives from day to day, and "takes life as it goes". Loneliness depresses Larry who often talks about his need for love, friendship and camaraderie. His friends abandoned him after the operation and now he has no one to share his thoughts. NABIS is his "only family". He loves to meet new people and makes every effort to appear likable. Larry has resigned himself to his disability. "One must live with whatever life brings and not complain about it" is his motto. He impressed us as a friendly, sincere and intelligent individual. His memory problems seem to be the most obvious effects of his brain injury.

3. Subject No. B3 - Francois

Francois is a 23 year old, 6'-2" tall, handsome and athletic looking French Canadian. He wears fashionable clothes, uses eau de toilette and sports the latest hair cut, obviously paying attention to the way he presents himself. He considers himself to be "cool, attractive and intelligent", even though he feels that "20 percent of his mind is gone since the accident". He admits to having been very popular with the opposite sex, and to having had several relationships prior to the accident. He is friendly, ready to smile and willing to share the stories of his life, thoughts, ideas, fears and dreams. Sometimes listeners are surprised by his frankness and lack of pretense. He claims that he feels comfortable around all women and that he trusts women more then men. During the Stop Distance Procedure, he allowed Anita to bump into him simply because she was a woman. His feelings towards women are not always sexual. He likes them as friends and confidantes. Francois was brain injured five years ago when a drunk driver hit the cab he was driving. Ever since, he suffers headaches and has difficulties with reading and writing. "Now it takes about twice as long to read or write anything." In addition to brain injury, Francois was recently diagnosed as having Multiple Sclerosis which presently manifests itself with blurry vision, slight voice modulation problems and slight difficulties with balance. He knows that these problems will worsen, to the point of crippling him. To help the other Multiple Sclerosis. victims, Francois wants to establish a centre where they will receive group counseling and feel united in their cause to raise money for medical research devoted to finding a cure. Francois impressed us as an intelligent young man who thinks positively but occasionally succumbs to depression. He told us about thoughts of death and suicide, and about his hopeless attempts to fight Multiple Sclerosis. He was introspective and provided interesting responses.

4. Subject No. B4 - Darwin

Darwin is a 30 year old, 5'-9" tall, medium built man, usually dressed in jeans, flannel shirt and worn-out army boots. He does not care about his appearance, does not shave daily and his face appears frost bitten and rough. Five years ago, while driving his truck, Darwin was hit by a train. Both of his frontal lobes and the right temporal lobe were damaged, resulting in radical personality and behaviour changes. From an active, socially well adjusted and contented man with many friends and interests, he turned into a painfully shy recluse who can no longer comprehend the meaning of abstract concepts and cannot read or write. He still enjoys wood carving but "it takes a lot longer to complete any project, because his hands are just not the same". Darwin has lost initiative and has abandoned many activities which once interested him. His memory is also very poor. He cannot remember what he did the day before, what he ate for lunch or what day of the week it is. His recollection of the past events prior to the accident is intact. Darwin suffers from a mood disorder manifested by emotional outbursts, frequent anger without provocation, and crying spells. NABIS staff think of him as emotionally unpredictable and "very unpleasant" when angry. The bad moods subside quickly and suddenly, Darwin becomes quiet and friendly, having no recollection of the emotional outburst. During our experiment with him, Darwin was very pleasant and we found it difficult to observe anything distinguishing him from any "normal" person.

5. Subject No. B5 - Rick

Rick is a 62 year old, 5"-11' tall man with white hair. He uses a cane and walks slowly. His movements are slow, resembling a slow motion picture. Rick suffered a massive heart attack which prevented oxygen from reaching his brain. He was in a coma for two weeks. He suffers severe cognitive and personality problems. His long and short-term memory are impaired, to the extent that Rick cannot remember what he did 10 minutes earlier. However, his memory of faces is intact. He uses a memory book, often forgetting to read it. According to staff members, "he is among the most impaired NABIS members". He is like a child who must be guided and watched. He cannot take care of his basic needs and must be helped with dressing and in the washroom. He has no difficulty in communicating his needs, but his speech is slow, labored and his sentences short. His thinking is simple, unsophisticated, focused only on his basic needs and the struggle to function. Despite tremendous cognitive limitations, Rick is friendly person who smiles a lot, "loves meeting new people and sharing his thoughts". Sometimes he feels depressed about his disability and helplessness, as he realizes that living with him is very hard on his wife who might be tempted to leave him. He cannot function sexually and feels that "he is no longer a man". He receives frequent counseling to learn to accept these problems. Generally, Rick seems like a friendly man who has a general idea of his problems, but who cannot function without a lot of assistance, and therefore belongs in an institution where his needs can be taken care of. He was difficult to work with because of problems with balance, a tendency to forget directions, and tremendous difficulty describing and analyzing his experiences.

6. Subject No. B6 - Sarah

Sarah is 5'-5" tall and slightly "chubby". Her features are pleasant but slightly distorted by injuries that she sustained in a car accident four years ago. Her left eye appears to be slightly displaced, clouded and unfocused. Sarah cannot walk without a cane because her sense of balance is severely disturbed and her left leg cannot support her body weight. Her use of her left hand is very limited, forcing her to become right handed. Apart from physical disabilities, Sarah suffered brain injury which resulted in a partial long term memory loss and hyper-sexuality manifested by being "turned on by any handsome hunk". Sarah seems to be a warm and friendly person with a great sense of humour. she also enjoys meeting new people. She seems intelligent and witty. Other NABIS members appreciate her willingness to listen to their problems, and her positive attitude. Sarah has resigned herself to her brain injury and the physical handicaps. "There is nothing I can do about it, so I better learn to live with it", she often says. Her cheerfulness and optimism made her very pleasant to work with.

7. Subject No. B7 - Ardis

Ardis is a pretty, 22 year old, 5"-5' tall, slightly overweight girl with shoulder length, curly brown hair and large, brown eyes. Wearing heavy makeup and inexpensive but fashionable clothes, she obviously pays attention to her appearance. According to NABIS staff "she attempts to seduce every young male in her proximity, usually ending with a different guy every night". According to staff , "her behaviour results not only from brain injury, but stems from the need of receiving and giving love. It is also one of her ways to regain self acceptance." Five years ago, Ardis' car collided with a stationary school bus. Ardis suffered severe left frontal and temporal lobe injuries, in addition to multiple fractures and internal bruises. Now she suffers short-term memory loss which reduces her ability to learn new things, to read or write well, or to remember appointments without a memory book. She also suffers minor speech problems manifested by occasional word mispronunciations and a slight difficulty with voice modulation, which she has largely overcome with intensive speech therapy. However she can remember the beginnings "when no word came out right and she had to struggle with each sentence". Other results of the accident are a stiff neck, severe headaches, and occasional depression. According to NABIS staff, these states result not only from the changes in her brain but from the secondary effects of it, such as loneliness, inability to lead a "normal" life, and hopelessness. She is fully aware that her chances to attain the dream of marrying, raising a family and working are very slim. Ardis seems to be a friendly talkative person who enjoys meeting people. We found her pleasant to work with.

8. Subject No. B8 - Harry

Harry is a 44 years old native Indian who stands just under 5'11" tall. He is slim, athletic looking and "very strong" according to NABIS staff. Five years ago he was hurt in a car accident from which he was the only survivor. He lost a large portion of the right frontal lobe and as a result, suffered several adverse emotional and behavioral changes. He lost emotional sensitivity and the capacity for modulating emotionally charged behaviour. According to the NABIS staff reports, he tends to overreact emotionally to external stimulation. If, for instance, during a conversation someone changes the topic from pleasant to an unpleasant one and back again, he beams with happiness or becomes upset with each topic change. Also, he is also known to suffer brief episodes of strong affective expression such as tearful sobbing or laughter. Harry's memory is very poor. He has difficulty learning anything, cannot remember appointments, dates, numbers or names. When asked about his activities the previous day or month he seems to be totally lost but can remember his life prior to the accident. The NABIS staff also report that he invents things to make his stories sound plausible and to fill the gaps where he does not remember the course of events. Harry's speech has also suffered, becoming slow, quiet and labored. He stutters badly, particularly when tired and under stress. He tries to overcome this problem, but it seems that the harder he tries, the worse his speech becomes. People have the tendency to become impatient with him and "not to listen". Harry gets upset when this happens and he avoids new social contacts. NABIS is the only "family" he has. Prior to his accident, Harry used to read a lot, wrote some poetry, attended classical concerts which he "absolutely adores", and visited art galleries. Now he does not remember how to read and write but still enjoys the occasional concert or a visit to a museum. He longs for the friendship, love and company of an understanding person, but realizes that his chances of ever finding one are very slim. That makes him depressed and melancholic. He was married a long time ago but the relationship could not withstand the strains that his disability imposed on it. Harry complains about loneliness and isolation saying that "if you break your leg, people feel sorry for you, but when you injure your brain, they can't see it, and treat you like an outcast". Harry often feels like an outcast, particularly when neighborhood kids laugh at him and call him" a nut". Harry impressed us as a responsible and sensitive person, but full of insecurities, quiet, shy and withdrawn.

9. Subject No. B9 - Ursula

Ursula is a 44 years old, plump, 5'-7'' tall east-European woman who immigrated to Canada 20 years ago. With her dark skin and black, braided hair she resembles a native Indian. She does not seem to care much about her image. She usually wears jeans, flannel shirt and boots. Six years ago Ursula suffered an aneurysm in her right temporal lobe. She was in a coma for nearly 6 weeks and now suffers a moderate mental disorientation manifested by a loss of reading, writing and arithmetic skills, as well as a partial short-term memory loss. She has no capacity to learn, cannot remember appointments or do much planning. When asked about what she did the previous day, she seems lost and disoriented. Occasionally she has a fragmentary recollection of the previous day, and tends to create a story around it, to complete her description. Her long term memory seems to be only slightly affected. She remembers her life events from before the aneurysm, except for the exact dates, and the order and time span between events.

Following her illness, Ursula developed a very strong desire for food and can eat all day long and seemingly in any amount. Because she cannot remember her last meal, she constantly thinks "it's lunch time already". Any symbol of food such as Safeway or McDonald's signs release her urge to eat. Other symptoms of Ursula's disorientation are the disturbance of the sense of direction, and cognitive disturbance, manifested by the tendency to jump from topic to topic during conversation. NABIS staff believe that this is an attempt to hide her insecurity around new people, and to appear intelligent and verbal. Our impression is that she cannot concentrate long enough to sustain a regular conversation. Apart from these problems, Ursula is very friendly, warm and talkative. She jokes a lot, frequently "spicing " her stories with witty anecdotes. She usually smiles and seems completely free of anxiety, without a worry in the world. Her ex-husband, who acts as her guardian, has to handle all her finances, carry out the domestic responsibilities and do all the planning for her. She does not seem disturbed by this constant need for help, even though, before her aneurysm, she used to lead an independent life. She is aware of her disability and what caused it, but does not become depressed about it. She takes life as it is, stoically and with considerable humour. Soon, she will become a permanent resident in one of the auxiliary hospitals in the city, which makes her happy. There she will enjoy her pottery and needlework, allowing her family to rest, she says. NABIS staff feel that Ursula does not belong in an institution, as she seems capable of functioning on the outside, with minimal help. Generally, Ursula appears to be a friendly and witty person, with some cognitive problems. She is pleasant to talk to and easy to work with in an experimental setting.

10. Subject No. B10 - Ron

Ron is 35 years old and 5'-7" tall. He dresses in the latest styles, obviously paying attention to his appearance. Ron speech is fluent and he enjoys discussing a variety of topics ranging from the technical details of machinery to political issues, as well as his everyday life and concerns. His fluency gives the false impression of not being brain injured. Three years ago a large beam fell on his head, damaging the left frontal lobe and causing several cognitive and personality changes. His short and long term memory is impaired to the extent that he cannot remember what he did a half an hour earlier, and his recollection of events prior to the accident seems dim. No one knows how bad his long term memory really is, because Ron usually invents colorful stories about his life, exclaiming how successful, educated and affluent he used to be (in reality he worked as a boiler repairman). NABIS staff are not sure if these stories are to impress others and "boost his ego", or if he just wants to fill the gaps in what he can remember, or if he feels compelled to inflate his past as a result of a personality change following the accident. His stories sound plausible, and only after a while, when Ron forgets what he said earlier, one realizes that there is no truth to them. Ron's moods change rapidly. One moment he seems happy, the next one he is angry or sad. He lost his sense of humor, became tense, angry, sensitive to what others say, prone to attacks of violent anger. NABIS staff feel that he could become dangerous when provoked, however no one understands the trigger for these reactions. He receives weekly anger counseling Our experience of working with Ron was positive. He gave us introspective and interesting responses and seemed quite capable of analyzing and describing his experiences.

11. Subject No. B11 - Mel

Mel is a 30 years old, moderately overweight native Indian who stands a little under six feet. Six years ago he was involved in a head-on vehicle collision, which left him in a coma for nine months, blinded in the left eye, partially physically disabled by disturbed balance and with limited use of his left hand. Mel also has severe problems with his speech, which in spite of being coherent and grammatically correct, is difficult to understand. Mel's mispronunciation of most words combined with the flat, monotonous quality of his voice sounds like "mumbling". Mel's brain injury involves both frontal lobes and the left temporal lobe. His injury resulted in profound behaviour and personality changes causing him to become very irritable, prone to anger outbursts and even physical violence. He has lost his initiative, spontaneity, and sense of humour, and the ability to make mental shifts along the conversation flow. He can talk about his plans and projects but cannot transform words into deeds. He can do little beyond routine self-care and home activities. Mel's memory has also suffered. He can remember very little of his life before the accident, and almost nothing about his day-to-day activities without the help of a memory book which he often forgets to read. He is depressed about his disability and loneliness, often talking about his need for love, friendship and the desire of having a "very special lady close to his heart". He also complains about those who, recognizing this need, took advantage of him and stole his money and possessions while pretending to be his friends. Mel reminds us of a child starved for affection, and closeness. Sometimes, female staff members complain about his "stickiness" and a sexual overtone to his behaviour. Mel knows that his behaviour is inappropriate by normal standards but believes that "he can get away with anything because of the brain injury". He impressed us as a friendly but depressed person who longs for love and affection.

12. Subject No. B12 - Joe

Joe is a 5' 3" tall, chubby, bald, 40 year old man with a round, red smiling face and tattoos on his arms. He usually wears jeans, cut-off T-shirt and cowboy boots. Joe suffered two motorcycle accidents. The last one, 10 years ago, left Joe in a coma for 9 months and with severe cognitive disturbances. Joe lives with a guardian who takes care of his apartment and bills, also helping him remember appointments and generally keeping track of his daily activities. Joe's long term memory is intact. He often boasts about his colorful past when he dealt with motorcycle gangs, took part in street fights, befriended several well-known pimps and even married a reformed prostitute. He fondly remembers "the good old days" but feels that the present is not too bad either because at 40 he is still going strong and is still "perfect". He does not see his past associates' behaviour as inappropriate and may have a non-traditional demarcation of right from wrong. He sees as "facts", things that others might be led to make moral judgments about.

Joe appears to be in a good mood all the time. He talks for hours, jokes around, laughs and smiles. He likes and seems to trust anybody who "wants to be his friend". Sometimes Joe feels bullied by some neighbourhood girls, who knowing about his lack of sexual inhibitions (which resulted from his last accident) visit him in his apartment and pretend to make a pass at him, really wanting to steal his money and possessions.

Joe does not fully understand the nature and extent of his limitations and tends to set unrealistic goals for himself, such as living alone, getting a job and finding a woman. As a result he continuously fails to live up to these goals. People get impatient with him as it takes him too long to explain anything. He repeats himself and jumps from topic to topic. He has a short list of a half dozen phrases and sayings that serve as all-purpose remedies any time his end of a conversation is blank. He seems intelligent but his cognitive problems make it difficult for him to make friends. As a result, he often feels lonely and isolated. Generally, Joe impressed us as an intelligent and friendly person, who with his spontaneity, smiling face and lack of moral judgment resembles a child. He is easy to talk to, warm and sincere.

13. Subject No. B13 - Rod

Rod is 63 years old, slim, 5'-5'' tall and uses a cane for walking. His movements are slow and his gait shaky. Rod's left leg hurts continuously, usually more so when he is standing still. As a result he feels compelled to walk around all the time or to sit. Ten years ago he suffered an aneurysm in the left temporal lobe. Following a 2 month coma, he found himself suffering from numerous cognitive and physical problems. He suffers partial short-term memory loss and has difficulty with reading and writing. "Written words just do not seem to register" in his mind. He has no problems with spelling but experiences difficulty in translating written words into meaningful messages. Reading, which was once an enjoyable activity for Rod, became frustrating and tiresome. Rod looks into the future optimistically and with some humor, believing that one day he will fully recover and become "his old self again". Rod likes meeting new people, talking and joking around, but sometimes one notices a certain sadness about him, which makes one wonder what he is hiding behind the cheerful and happy facade. We felt that Rod was trying very hard to discard any pessimistic thoughts but sometimes could not succeed. He was easy to work with except that he needed frequent interruptions for rest. He had difficulty standing for longer than 5 minutes at a time.

14. Subject No. B14 - Barry

Barry is a 40 year old male who suffered an aneurysm in his left temporal lobe. As a result of the incident, he became withdrawn and lost his short-term memory to the extent that he must rely on a memory book to function during the day. He has also lost the ability to read and write. According to his statements he had to relearn the basic life skills such as the using the telephone and with speech. He seems to be depressed and quiet. He was not willing to discuss his family or interests, even though he indicated that the experiment was "fun".

15. Subject No. B15 - Jeff

Jeff is a 30 year old, slim man, who is confined to a wheelchair, with his right leg out-stretched. He was involved in a motorcycle accident in which his legs were smashed to pieces and the spinal cord and brain severely injured. His corpus callosum, the frontal lobes and medulla oblongata were severely damaged He was in a coma for 9 months and so severely brain injured that, doctors consider his survival to be a "major miracle". The brain injuries strongly effected Jeff's cognitive functioning and personality. According to his guardian, "he is like a child for whom all decisions must be made, who must be continuously cared for and who remembers nothing that is asked of him". His short-term memory is gone. He cannot remember his age, what he did 10 minutes earlier, cannot read, write or remember peoples' faces. Jeff's life resembles a semi-vacuum in which he tries to hold onto a few fragmentary, familiar elements, such as his immediate family whom he recognizes and seems to care about. He can also recognize and name objects and talk about his immediate experiences, thus giving the false impression of not being severely brain injured. It is only after a while one realizes that Jeff cannot remember any of the recent topics of conversation or experiences. Jeff is very moody. Sometimes he laughs, jokes and seems friendly, while other times he becomes irritable and very angry for no apparent reason. These mood swings are unpredictable, and according to NABIS staff "one never knows what to expect from Jeff". He is very frightened of people touching his right leg or the wheelchair. He "feels pain" when that happens and becomes violent towards those who touch him. No one can explain the nature and origins of this pain. Sometimes though, this pain does not seem to occur. For instance, during the experiment, we asked him if he would allow us to touch his chair and the right leg. Initially he refused but later allowed us to do so, reporting no pain. His personal space widely fluctuated between 70 cm and the almost touching distance of 20 cm. However he did not indicate why his spatial preferences were changing so dramatically. Jeff is aware of his disability and what caused it, but does not seem to worry about it. Sometimes he jokes and laughs about the accident and his "stupidity" for not having worn a helmet. Sometimes though, he becomes quiet and introspective, and one must wonder what he hides behind those jokes and seemingly cheerful laughter. Jeff likes meeting new people, particularly women whom he calls sweethearts. He was easy to work with, but required more directions than other participants. He seemed to be a moody person, too disoriented to function alone.

16. Subject No. B16 - Donald

Donald is a very slim, 60 year old French Canadian who stands 5'-7.' Five years ago, Donald was hit by a truck while jay-walking. He was in a coma for a year, and continued in hospital for two more years. He lost his short-term memory to the extent of not being able to recall from the previous day. His ability to read and write is also severely compromised, leaving Donald with practically nothing to do, except to drink and "feel sorry for himself". He does not seem to care about his appearance, chain smokes and suffers from alcoholism which he attempts to curtail with the help of Alcoholics Anonymous. He lives alone and seldom talks about his past. He suffers from severe depression brought on by poverty and loneliness. "I don't give a damn what the future brings because it just cannot be good anyway", might serve as his current motto. He has never married and the only relationship he ever had failed because her father "didn't approve of the union and forbade her to marry me". His brain injuries brought on several emotional problems, such as depressive states, and infrequent but violent anger outbursts, and occasional suicide attempts. NABIS staff are not sure if these can be directly attributed to Donald's brain injury. They feel that his present difficult life circumstances contribute to his poor state of mind, triggering depression and anger. According to Donald, he sees no reason to live because no one really cares if he is dead or alive. He visits NABIS, not because of a particular sentiment, but because he doesn't have any other place to go. However, he enjoys meeting people, talking and answering their questions. His speech is good but he cannot reason in abstract terms, imagine things, and comprehend metaphors or symbolic meanings, all of which make him a rather dull conversation partner. He impressed us as a sad, lonely old man who is lost in his thoughts.

17. Subject No. B17 - Betty

Betty is a plump 40 years old woman who is well groomed, pleasant mannered and soft spoken. She worked as a flight attendant before a stroke in her right temporal lobe 5 years ago left her in a coma for three days and completely paralyzed the left side of her body. She regained some use of her arm and leg but the dexterity is gone, and she must use a cane to walk. After the stroke, Betty lost her short-term memory, the ability to read and write, and her speech which she has now mostly regained through three years of intensive speech therapy. A slight impairment of verbal fluency remains despite her constant vigilance and conscious effort. This effort is a continuous drain on her energy and she tires easily. Her fluency deteriorates when she is tired and gives rise to a vicious cycle in which she expends more effort when tired, which further saps her energy at the times she needs it most. As a result, she occasionally reports feeling worn out and may become discouraged, irritable and depressed. NABIS staff report that she gets angry without provocation. She has also lost the notion of directions. During the Body Part Orientation Test she made several errors, particularly when it came to differentiating between the left and right sides of the body. During the Stop Distance Procedure, she also made errors when asked about the directions of various approaches. Betty is self conscious and avoids people to avoid "the ordeal of conversation". She is afraid of psychological tests, and suspicious of researchers, which made her initially reluctant to participation our study. Betty is very depressed by her inability to read. In the past she "used to read voraciously". Now she misses reading and finds herself "with nothing to do all day long". Betty is very lonely even though "in the past she has led a very active social life". She still cannot accept the limitations that her disability imposes on her lifestyle, however she considers herself lucky for having recovered sufficiently to visit the NABIS centre and participate in their activities. Generally, Betty impresses us as a friendly person with warm personality but fearful of new people and situations. Though she may be self-conscious, lonely and suffer from low self esteem, this was not apparent during our interview. Once she came to trust us, she spoke easily and seemed honest and open.

18. Subject No. B18 - Dale

Dale is a 25 year old, 5'-7" tall, slim, seemingly "normal" person. He dresses, behaves and talks like any average person his age, and to an observer, he does not seem to be brain injured. It is only after a while that Dale's problems become obvious. Six months ago he was hit by a truck while riding a bike. Following the accident, he was in a coma for over two weeks, and now suffers from a personality disorder manifested by the inability to show any feelings. NABIS staff feel that "either he has lost the capacity to feel anything or buries his feelings too deep for them to emerge". Some staff members feel that "some day something may snap and he may lose control and do something awful to himself or others". No one really knows if his lack of emotional expression resulted from the brain injury which caused a personality change, or from the trauma of growing up in poverty, surrounded with violence and drug and alcohol abuse. His two best friends committed suicide because "they couldn't take it anymore". Dale laughs about these incidents because "it is so funny when people die, just like rabbits". He talks continuously if anyone is willing to listen. The usual topics of these monologues are events from his "colorful" past, almost as if he wanted to impress the listeners with "blood chilling" descriptions of fights, child abuse and cruelty towards animals. He proudly shows various scars resulting from being stabbed with a knife, injured with an ax, or poked with a screwdriver. Dale did not finish high school. He worked many odd jobs, not being able to keep any job for longer than five months. "He was continuously on the move, running away from something or maybe from himself", according to one staff member. Dale claims that he never cried. "This is a silly behaviour. No one has a reason to cry. I don't know what it feels like", he says. Our intuitive feeling about Dale is that he has never learned to express his emotions. Lacking cognitive difficulties, memory or speech problems, he does not strike us as a brain injured individual. When we asked why he was coming to NABIS, his response was that "he had no other place to go". To us, he seems like someone who needs intensive psychotherapy and does not really belong among the brain injured.

E. Summary Of Reports of Brain Injured Respondents

The brain injured subjects provided a much more complex pattern of responses than the control group. They differed markedly in their performance during the initial tests, in their personal space measurements, as well as the degree of error in the estimation of the interpersonal distance. Some of them exhibited unusual spatial responses and occasionally provided contradicting or unusual descriptions of their feelings and experiences. Others provided responses which were very similar to those of the control subjects. As a group, we found them more enthusiastic and friendly, as well as more willing to explore and share their experiences with us. Below we describe and analyze seven of the unusual cases in this group. (Chapter IV includes brain injured subjects' profiles)

1. Subject No. B5 - Rick

Rick displayed one of the most unusual spatial patterns. His personal space fluctuated between 125 cm. and 15 cm., and his report of his perception of interpersonal distance was distorted, particularly when the distance exceeded 60 cm. Rick underestimated all such distances by over 60 percent.

His performance on the initial tests showed a serious impairment in his ability to estimate distances, as well as poor orientation in space. During the Block Test, Rick's estimates did not even come close to the true distances, but his notion of relative distances remained intact. He could tell when the block was moved further or closer from his end of the table. Rick's performance on the Body Part Orientation Test revealed that he could not differentiate between the left and right side of his own body or do so on a picture of a person. Only occasionally did he guess correctly, which may have reflected a true spatial disorientation, rather than the less serious conceptual "mix-up" in differentiating left from right. Rick also made several mistakes when asked to point to his own body parts named by the experimenter. His poor performance on the Body Part Orientation Test could have reflected either a gap between his comprehension of body part names and the ability to point them out, or the loss of ability to locate his body parts.

During the Stop Distance Procedure he had difficulties with verbalizing feelings and thoughts. He found the procedure confusing and difficult but tried very hard to be helpful. He was clearly attracted to the experimenter whom he called "sweetie" and "a good looking girl". When asked about his spatial preferences, he mentioned that he "could not stand people right beside him", that "it felt terrible" and also that he "does not allow girls to come close to him". However, he also indicated that the closeness of a male would seem worse and he "would keep a male further away". This claim was consistent with his generally large stopping distance when the approacher was a male. Rick's consistently erroneous distance estimates probably reflected his inability to remember the units of distance. He had forgotten what one inch or one foot looked like, but at the same time could differentiate between closer and further. We decided not to treat Dick's distance estimates as truly reflecting his perception. His estimates are meaningful only to the extent of showing his post-stroke disability. We believe that Rick preferred to give us any answer rather than admit his incompetence in estimating distances. This belief was further supported by one counselor's claim that "Rick usually pretends to be more intellectually competent than he is".

There are numerous possible explanations for his unusual personal space fluctuations. Most likely, Rick could not remember how far he stopped the experimenter from one approach to the next. Lacking the frame of reference, he may have considered every approach to be the very first one. Moreover, his focus of attention may have been changing, thus influencing how he felt about interpersonal closeness. Another possibility is that Rick's personal space fluctuations may have been caused by a momentary lack of attention. Some thoughts, irrelevant to the experiment, may have partly overridden his attention to the procedure, thereby allowing the experimenter to come closer than otherwise.

Just as his comfortable interpersonal distance and distance estimates varied from one approach to the next, so did his feelings immediately after the experimenter stopped. At times, he felt "suddenly safe", but after the next approach, he mentioned that the feeling of discomfort remained. Since Rick's short-term memory was severely impaired, he may not have remembered how he felt about the experimenter's closeness two minutes earlier. His contradictory responses may be explained by his frequently changing feelings about the experimenter. He knew the experimenter and seemed to have an unchanging feeling about her throughout the experiment, but at the same time seemed to have lacked a continuity of impressions about her. Sometimes she may have seemed more threatening to him. He may have also felt uncomfortable about the attraction he felt towards her. When the discomfort became particularly strong, he may have preferred to keep her further away. Another possibility is that Rick's descriptions of feelings were as meaningless as his distance estimates. He could have responded to our questions only to comply with the experimental instructions, and to appear competent.

2. Subject No. B6 - Sarah

Sarah was the only subject whose personal space significantly increased over the series of approaches. Initially she allowed herself to be "bumped into", but later her personal space increased to over 100 cm. The initial tests showed that she was good at estimating distances, and orienting herself. She reported feeling progressively more uncomfortable as the Stop Distance procedure progressed. Initially, she could not tell what caused her discomfort, but later reported that "for women it is inappropriate to stand too close to each other" and that "the experimenter was coming too close". Sarah's personal space was smaller along the sides of her body. She justified this by saying that "people usually maintain smaller distances when they're side by side".

Sarah's responses clearly showed that she implied a sexual meaning to the Stop Distance procedure. As the experiment went on, she felt worse and worse about her associations. She seemed to feel progressively more uncomfortable about the experimenter's closeness. Sarah's discomfort may have stemmed from her concern about the experimenter's feelings or from her uncertainty about the "appropriateness" of such feelings. She may have felt that allowing the experimenter to come "too close" would-be interpreted as a sexual message. She felt that the approaches from the sides were less threatening, because side to side closeness is more socially acceptable, and does not necessarily imply sexual intentions. On the other hand, face to face closeness is usually reserved for intimate relationships.

Hence, we attribute Sarah's unusual spatial behaviour largely to her feelings about the Stop Distance Procedure. However we cannot tell why she associated the procedure with sexual behaviour. One of the possibilities is that her brain centers responsible for sexual behaviour were damaged, and she was more prone to sexual arousal than "normal" individuals, or that the nature of the procedure seemed sexual to her. Sarah's sensitivity about the closeness of the experimenter may have been enhanced by the nature of the procedure. The procedure required that the subject concentrates solely on interpersonal distance. Usually when people walk up to someone, they do so with a purpose, and regulate the interpersonal distance in accordance with their purpose. The Stop Distance Procedure was devoid of any purpose which would regulate interpersonal distance. Therefore the participants could apply a wide range of interpretations to the procedure, and form a wide range of associations with it. Under different circumstances, Sarah's personal space could have been very different. This belief was supported by our observation of Sarah outside the experiment. She consistently maintained a small interpersonal distance and even touched the experimenter's shoulder a few times.

3. Subject No. B9 - Ursula

Ursula was one of the most interesting subjects in our study, as she displayed very unusual personal space fluctuations which varied between a touching distance of 10 cm., and a very large 98 cm., in spite of a very good spatial orientation and superior ability to estimate distances. Her unusual personal space fluctuations were accompanied by equally unusual reports of feelings and experiences during the Stop Distance Procedure. She seemed to be relaxed and in good mood, but occasionally lost her concentration and seemed not to understand the meaning of the experiment. She understood the instructions and complied with our directions, but still could not grasp the reasons for conducting the Stop Distance Procedure.

"No, I guess I'm quite a bit mixed up because I don't know, I didn't know what the experiment is all about if it's about spatial relationships or my comfort."

"Because I didn't know what all this testing is about, even though I think it is about spatial relationships or whatever. No, actually it is about you and your thesis of something. No I shouldn't really feel silly."

During the measurement of her personal space, she never reported any discomfort, even when she asked the experimenter to stop at a distance of 98 cm. from her. When asked why she stopped the approacher so early despite a lack of discomfort, she provided a number of contradictory statements: that she "was lying because she did not feel uncomfortable at all", that she "thought it was part of the experiment to say stop whenever she felt uncomfortable, and that the experiment was about spatial comfortness", and that she "waited patiently to say stop and did not want the experimenter to feel that she felt uncomfortable about her". One source of Ursula's discomfort was a cold with which she did not want to infect the experimenter. She mentioned that without the cold, she would allow the experimenter to come "a lot closer".

We found Ursula's spatial behaviour and responses interesting enough to schedule another session two weeks later, when only the direct frontal approaches were repeated. Her spatial pattern remained the same, and the responses were just as unusual. Her main concern during the second session was consistency at stopping the experimenter at roughly the same distance during each approach. However, she could not remember the stopping distance from one approach to the next. There were times when she believed, or pretended to believe, that the experimenter actually came closer than before, but in reality, the opposite was true. When asked what was the difference in the stopping distances from one approach to the next, she provided inaccurate but deceptively precise responses. For example:

"*You are about one inch further from me.*"

She also referred to kissing on a number of occasions.

"I think she is going to kiss. That's not permissible. It's not part of the testing. You are getting awfully close. Next time we will be kissing. I'm gonna turn my head."

We treated these comments as friendly rather than sexual, but not totally devoid of sexual meaning. Such thoughts may have caused her some discomfort. Even though they sounded more like a joke, the potentially sexual comments often coincided with an increase in her preferred interpersonal distance.

There are numerous possible explanations for Ursula's unusual spatial behaviour. For one, the fluctuations in her personal space may have been caused by her fluctuating focus of attention. She may have momentarily thought about things other than the experiment, which may have reduced her sensitivity to the experimenter's closeness. Second, she could have felt uncomfortable about "hurting" the experimenter's feelings by saying stop. However, this would imply a noncompliance with the experimental instructions, and she seemed to be concerned about following our instructions. Third, Ursula may have lost her spatial memory, and had no frame of reference on which to base her stopping criteria. Most of the other respondents remembered roughly how far they had stopped the researcher during the earlier approaches. This "knowledge" could have influenced their "feelings" about the experimenter's current closeness. For instance, some of them felt progressively more comfortable about the procedure and the researcher's closeness. Ursula may have lacked this frame of reference, and each of the approaches may have seemed to her like the very first one. Given that her concentration may have wandered, the "distractions" may have caused her to frequently change her preferred interpersonal distance.

Another, however unlikely possibility, is that she considered the experiment as a "fun" situation which allowed for her "discarding" of her personal space. Maybe, when she particularly enjoyed the diversion from the regular routine which the experiment provided, she did not feel like stopping the experimenter from coming closer. She could have also been curious how the experimenter would react if she did not say "stop". Another remote possibility is that the Stop Distance Procedure could have partly met her need for affection. When the friendly experimenter bumped into her, Ursula may have interpreted her action as a sign of affection. This hypothesis is supported by some of her statements such as: "Come to the home ground" or "Come to the home rock". Occasionally she also reached out towards the experimenter, as if she wanted to give her a hug. Therefore we suspect that Ursula's unusual spatial behaviour could have been situation related.

4. Subject No. B10 - Ron

Ron was the only subject whose personal space was unusually large, consistently around 110 cm. His performance on the initial tests was good, and his distance estimates very accurate. During the Stop Distance procedure, he seemed to be tense and nervous. His affect was flat, the body posture rigid and his face expressionless. He had the sensation of "butterflies" in his stomach, and experienced increasing tension which culminated in his stomach becoming "tight as a drum". When asked if this tension was caused by the fear of being touched, he denied it, saying that "it was something different that caused it" but he "did not know what it was". When the experimenter stopped, however, the feeling of discomfort slowly disappeared. Also, as the session progressed, Ron felt progressively less uncomfortable. He said that his familiarity with the experimenter made him less nervous about the procedure. There were some sexual undertones to his responses, particularly when he observed that the experimenter was an "attractive" lady, and he enjoyed the idea of being touched by her. He also mentioned that if the experimenter was a male, he would "feel much worse" because "males pose more threat". At the end of the experiment we allowed him to try the procedure with Dr. Hayduk. Ron's personal space increased slightly, likely reflecting his elevated discomfort. In the reverse-role situation, Ron felt even more uncomfortable, but observed that he should have felt less uncomfortable. However, he could not explain why he felt this way. This statement indicates that Ron tried to justify his reactions to the invasion of his personal space and seemed to be very concerned about what is "appropriate" to feel or think under the circumstances.

Ron was the only subject with whom we attempted approaches from the back. He found these approaches "intolerable" and after two such approaches refused to continue with them. He reported adverse physical reactions (stomach pain) in response to the approaches. After the experiment, he mentioned that experiments remind him of exams, and that he felt as we were testing his cognitive abilities. This association made him feel self conscious, vulnerable to possible imaginary criticism and the possibility of a negative evaluation from us.

Not having found him to be spatially disoriented, we attribute his unusually large personal space directly to his feelings about the procedure, his rather aloof personality, and especially to his negative self-perception. Ron clearly suffered from a very low self esteem possibly brought on by his diminished cognitive abilities. As a result he may have felt vulnerable, incompetent, "not as good as normal people", and may have preferred to maintain a large interpersonal space. We may have seemed particularly threatening to him because of our university affiliation, which somewhat intimidated most of the brain injured subjects.

5. Subject No. B11 - Mel

Mel's spatial pattern resembled that of Ursula, Donald and Rick, as his personal space fluctuated between 20 cm. and a large 183 cm. His performance on the initial tests was good, except for the Block Test, where he showed a great impairment in distance estimation.

Mel's responses to the questions during the Stop Distance procedure indicated that Mel, like Sarah and Joe, implied a sexual meaning to the procedure, and even felt excited by the closeness of the female experimenter. Mel feared the temptation to pull the experimenter towards himself because "one does not play this sort of games in a public place". Sometimes he allowed her to come very close, but soon after, the fear of his sexual impulses predominated and Mel stopped her when she was far from him. He felt uncomfortable, not because he did not like her closeness but because he liked it too much. He stopped her not at the point where he felt a desire to step back, but at a point where he wanted to minimize the distance remaining between them.

When we tried the procedure with Dr. Hayduk, Mel exhibited about the same personal space, but this time he felt uncomfortable about the physical closeness of another male. Mel's responses added another dimension to our understanding of personal space. To date, all definitions of personal space implied negative feelings as demarcating the "boundary" around a person. In Mel's case the positive feelings about the experimenter were equally powerful in determining this boundary. Because he felt "too positive", he decided to stop her in some of the approaches. Obviously the closeness of the experimenter was not the reason for Mel's decision to say "stop". Rather, he feared the consequences of not saying "stop". It would be interesting to examine what possible consequences were anticipated by Mel.

Mel's responses clearly demonstrated that his idea of an "invader" applies only to specific situations and cannot be generalized, and that the anticipation of the consequences of the approach may be as powerful as the genuine discomfort about someone's closeness. The experimenter was not an "invader" in the true sense of this word. Mel wanted her to come up close to him. Only the fear of what might happen if he allowed her to come up very close, made him go against his instincts. Dr. Hayduk, on the other hand, was an invader. Mel felt uncomfortable about his very presence in the close vicinity of his body. Because he felt uncomfortable, he said "stop", and was very consistent with the distance at which Dr. Hayduk was "supposed to" stand from him.

6. Subject No. B12 - Joe

Joe exhibited behaviours typical of people with frontal lobe damage. He was overly verbal and had trouble providing short and concise answers. Occasionally he did not finish a sentence but got lost in lengthy, erratic and sometimes contradictory descriptions of his feelings and experiences. In a few instances, his responses seemed not to relate to our questions. His voice sounded flat and monotonous but was punctuated with periods of considerable emotion.

Joe was one of the more interesting respondents. He seemed to have no personal space and he consistently allowed himself to be "bumped into" during the approaches. On several occasions he smiled or turned his head away, or stepped back half a step while the approacher was toe-to-toe with him. Otherwise, he showed minimal signs of discomfort about the experimenter's closeness. Several of Joe's comments do suggest, however, that he is aware of, and does have a personal space. First, he stressed that Anita was familiar and not threatening, with the implicit comment that he might behave differently with a stranger who might hurt him. With a stranger, he said he would feel "a little different about it, kinda shaky". Second, after one approach he said "I feel, well I know you weren't going to hurt me, so I was just gonna stand here and pretend nothing was happening". He would only have to pretend nothing was happening, if in fact something was happening, namely if he felt himself responding in some way. Further, after his stepping back at the end of an approach was brought to his attention, he "made sure" he "didn't step back" on a later approach. Why would it take an effort to remain in one spot if he had no response? And finally, he explicitly discussed smiling and recognition as clues he would use in determining how close he would come to a stranger or acquaintance.

To check on Joe's spatial preferences, Dr. Hayduk observed him unobtrusively during a casual off-experiment conversation at the centre. Every time Dr. Hayduk came closer than 50-55 cm., Joe stepped back, thus showing a very real and clearly defined personal space. Likewise, he maintained a distance of approximately 50 cm. when conversing with other NABIS members.

Thus Joe's consistent lack of stop statements and subsequent contact distances contrast sharply with his "routine" behaviour. We observed that Joe was attracted to the experimenter with whom he attempted to flirt. For instance he noticed a "nice gleam in her eyes", her "nice smile", and friendliness. He even said that he would allow her to get very close to him, regardless of what she was wearing, even if she was sprinkled with some foul smelling perfume. When we commented that he moved his arm backwards when the experimenter got close to him, he indicated that this was to make more space to allow her to come even closer. There was a theme of friendliness and liking, with potentially sexual undertones, to many of Joe's comments, such as the following: "she has kind of a gleam in her eyes, kinda glitter, nice too",; "she was holding herself back"; "I know you're a nice girl and you wouldn't hurt me, so what you see is what you got."; "I would agree, I do like her" and "she is nice enough anyway, it don't matter what she is wearing". When Anita asked, "did you want me to get closer?" he replied "yes, ah, I like you too, and I just moved my arm back saying you come closer to me". He spontaneously said "gotcha" on several occasions (instead of stop) just as Anita reached toe-touching distance. Joe also replied that "I could see it in her eyes she was holding herself back". So Joe felt some force pushing Anita towards him, and she was resisting. Joe might have viewed that "force" as the force of sexual attraction, while Anita viewed it as "consistently conducting a stop distance approach in spite of the impending threat of an uncomfortably close termination". On occasion, Joe said "I could see it in her eyes, she's holding herself back, so she knows now". We might ask: what is it that Anita is supposed to know? Can this be given any interpretation other than an emotional/sexual interpretation? At other times specifically non-sexual interpretations are possible but it remains difficult to avoid sexual connotations. For example, after Joe had approached Anita during the "subject moving" part of the stop distance task, he said: "the reason why I put my arms around you was because you said to stop when I was uncomfortable. And no, I'm sorry I wasn't uncomfortable. I could keep on walking but I didn't want to knock you over, so I put my hands out to grab you. That's the reason why."

His attraction seemed to always be mutual attraction in that he consistently attributed similar feeling to the experimenter, saying: "I like you "too" and reporting that his smiling was a "reflection from her to me".

Suspecting that Joe's unusual spatial behaviour could be experimenter related we allowed him to try the procedure with Dr. Hayduk. Again, Joe showed a seeming lack of personal space, possibly as a pretense to keep his response consistent with his previous responses to Anita's approaches However, if this was the case, we would have to assume that Joe did not comply with the experimental instructions, by concealing his urge to stop Dr. Hayduk from coming closer. We paid particular attention to Joe's facial expression and gestures as clues possibly pointing to his discomfort about Dr. Hayduk's closeness, but we did not observe anything unusual. Thus we are left wondering if Joe is a good actor or if he viewed Dr. Hayduk as a friend who posed no threat, and could have been allowed to stand very close to him.

Joe's responses and spatial pattern during the experiment, and his behaviour in an unobtrusive situation show that Joe's personal space is flexible. It shrinks under certain conditions and expands under other circumstances, just like it does for those with no brain injury. However the degree of these fluctuations is greater than normal. In the experiment he was instructed to say stop when he began to feel uncomfortable about the experimenter's closeness. Normal subjects often report having considered "not saying stop" while in fact they ultimately do say stop. By not saying stop, Joe might simply have acted out what is normally considered to be playful imagining. In the regular, everyday situation he was not given any implied permission to abandon his interpersonal distance preferences and he reacted by maintaining a normal interpersonal distance. Viewing Joe's actions as an exaggeration of normal spatial variability, meshes well with the sexual overtones to Joe's statements. There are intimate situations where "normal" people momentarily discard personal space. Joe's motorcycle-crowd background may have eliminated any "fear of sex" and hence for him the experiment could have represented an intimate situation where he could discard his personal space. Therefore his spatial behaviour may only reflect an unusually strong impact of his interpretation of various situations. From this perspective it is difficult to assess whether Joe's motorcycle background or his brain injuries are responsible for his unusual spatial behaviour.

One implication of Joe's persistent failure to say stop is that he could not be "accused" of being inconsistent. He thought it would be inappropriate for him to stop Anita "half way back" along one line "three quarters the way back" on another, and at "a quarter" on yet another line. How could Joe have considered different distances to be questionable or inconsistent unless he had some notion that some specific consistency in spacing is to be anticipated? It is difficult to judge which particular motive was running through Joe's mind when he committed himself to not saying anything on the very first approach. It might have been his willingness to "act out" what normals merely contemplate, or a lack of sexual inhibition, or a purposeful strategy to avoid "failing a test". Once committed to "not saying stop on the first approach", the preceding reasons might have formed a multiplicity of justifications for his continuing with no stop statements, despite the occasional "less appealing" approach by Dr. Hayduk.

7. Subject No. B16 - Donald

Donald's personal space resembled that of Rick's. His personal space fluctuated between 15 cm. and 213 cm., and like Rick, he was not able to estimate distances. Likewise, he could not name directions and body parts, or point to his own body parts when they were named by the experimenter. He also admitted to having "troubles with measuring things", as well as having vision problems in his right eye, and right side problems in general. This report was consistent with a significantly larger size of his personal space along the right side of his body, where he probably felt more vulnerable and defenseless.

Donald's verbal responses showed that he occasionally experienced difficulties with analyzing his experiences (possibly as a result of short-term memory loss), or that he was unwilling to disclose them. He frequently responded that he did not know how he felt, and that he had "to be honest with himself". We tend to believe that he was unwilling to disclose his feelings because a few of his other responses were quite analytical, showing that he was aware of his feelings. Also because some of his responses were sexual, we suspect that he felt embarrassed to disclose everything that was on his mind. For instance he often mentioned his ex-girlfriend, and when this happened, his personal space became slightly smaller. Probably at those times the physical closeness of the experimenter reminded him of the past encounters with his girlfriend.

When trying to explain the unusual fluctuations in Donald's personal space, we must also consider the possibility that Donald's spatial behaviour may have reflected his short attention span (or short-term memory loss). He may have been forgetting his thoughts from a minute earlier, continuously having fresh sensations and feelings which may have been radically different from the earlier ones. These new impressions could have been influencing his spatial criteria, causing the fluctuations in his personal space. On the other hand, he may have remembered what he thought about earlier, but the new sensations could have superseded the residue of the older ones, and Donald changed his spatial criteria anyway.

We must also keep in mind that Ronald was spatially disoriented. His distance estimates probably did not reflect his true perception of distance. When he felt particularly unsure of himself, he may have said "stop" early in the approaches, to avoid the possibility of an unpleasant confrontation with the experimenter.

All the above could be used to explain Donald's unusual spatial behaviour. To determine which hypothesis could best explain Donald's behaviour, more tests would have to be conducted.

F. Means and Standard Deviations of Measured and Estimated Distances by Group

Table 2 - Means and Standard Deviations of Measured and Estimated Distances by Group

Direction Of Approach	Mean		Standard Deviation	
	Control Group (cm.)	Brain Injured (cm.)	Control Group (cm.)	Brain Injured (cm.)
Frontal stop distance trial	69.772	66.833	36.215	35.159
Repeat frontal stop distance trial	75.111	78.944	30.652	37.864
Frontal - estimated	66.667	81.611	22.638	43.323
Frontal - measured	82.111	84.056	29.918	41.540
Left angle - estimated	60.889	64.167	21.380	32.370
Left angle - measured	83.888	68.556	28.707	36.573
Repeat left angle - estimated	63.644	75.167	23.514	72.424
Repeat left angle - measured	85.667	73.833	29.155	41.606
Left side - measured	65.889	68.824	30.714	39.843
Left side - estimated	78.778	61.222	30.589	41.251
Right side - estimated	58.750	65.222	26.015	37.863
Right side - measured	72.778	66.500	33.222	37.891
Right angle - estimated	74.327	69.000	32.331	36.348
Right angle - measured	72.556	95.611	37.716	38.345
Repeat right angle - estimated	60.375	66.437	28.304	32.350
Repeat right angle - measured	79.444	68.529	30.916	47.161
Subject turned left - estimated	56.444	57.157	23.202	38.181

Table 2 (Continued) - Means and Standard Deviations of Measured and Estimated Distances by Group

Direction Of Approach	Mean		Standard Deviation	
	Control Group (cm.)	Brain Injured (cm.)	Control Group (cm.)	Brain Injured (cm.)
Subject turned right - estimated	55.215	46.888	21.714	30.812
Subject turned left - measured	48.222	63.944	18.897	37.501
Subject turned right - measured	49.516	62.118	32.160	33.762
Frontal very uncomfortable - estimated	38.667	52.278	34.110	30.812
Frontal very uncomfortable - measured	48.778	64.471	32.081	37.327
Frontal very uncomfortable repeated - estimated	51.763	74.500	31.093	40.116
Frontal, roles switched - estimated	55.125	62.500	20.636	45.516
Frontal, roles switched - measured	63.556	55.222	19.936	33.774

Table 2 summarizes the average means and standard deviations of the measured and estimated stop distances in centimeters for the control group and for the brain injured subjects. The following summary provides an overview of the differences observed between the groups, and also gives some explanation for these differences:

1 The mean stopping distances were slightly larger for the brain injured than for the "normal" respondents, although there were few exceptions to this trend. The standard deviations for the brain injured group exceed those of the university group for all but two of the measurements. Amongst them was a respondent who consistently displayed unusually small spatial preferences (see Joe). Other respondents consistently displayed very large spatial preferences (see Rod and others). These extreme cases imply that the mean is not particularly informative about the spatial preferences of the respondents.

2 The measured distances for the frontal approach where the respondent was to stop the experimenter at the point of feeling very uncomfortable, was smaller than the basic stop distance in both groups. The decline was smaller for the brain injured group.

3 The estimated stop distance for the "very uncomfortable" condition was about 10 percent higher than the measured distance, for both groups. This could partly be explained by a generally higher anxiety level in anticipation of strong discomfort. Possibly the participants feared not conforming to the established, norms of appropriateness in maintaining interpersonal distance. Also, some respondents may have made their distance estimation on the basis of their preconceived notion of how far very uncomfortable should occur.

4 In the reversed role condition, where the subject approached the experimenter, both groups displayed smaller mean stop distances. However, their was a larger scatter of the data around the mean value.

5 The measured stop-distances for the approaches from the side were almost the same for both groups. The standard deviations were also similar.

Generally, both the control group and brain injured subjects displayed mean sizes of their personal space that resembled the observations made in different studies (ea. Hayduk 1976: 40, 82, 135). These results, however, are but a sketch of the actual behaviour because of the large standard deviations for the brain injured.

G. Analysis of Results of the Preliminary Tests and the Stop Distance Procedure

Both groups of subjects participated in a series of preliminary tests before having their personal space measured. The tests were to determine their ability to estimate distances (as measured by the Block Test of Distance Estimation), the sense of direction (as measured by the Road Map Test of Directional Sense) and the ability to localize different body parts (determined by the Body Part Orientation Test). We expected that performance on these tests would be predictive of the performance on the Personal Space Measurement Test.

We graphed the correlation's between the performance on these tests, and made the following general observations:

1 There was no significant correlation between the number of errors on the preliminary tests (see Appendix E). The control respondents performed flawlessly on all those tests. The brain injured, as expected, showed a marked disparity of results across these procedures. There was no correlation between the accuracy on one test versus another test. For instance, some respondents made numerous errors in estimating distances, but proportionally fewer errors on the Road Map Test of Directional Sense. On the basis of their strong performance on the Body Part Orientation Test (also sensitive to spatial disorientation), we suspect that these individuals experienced difficulty in verbalizing their thoughts rather than showed true spatial disorientation.

2 There seems to be no correlation between the number of errors on Block Test of Distance Estimation and number of errors on the Road Map Test of Directional Sense (Appendix E). Individuals' results on either test were not predictive of the results on the other. Moreover, performance on either test seemed unrelated to any reported brain injury. Respondents with dissimilar brain injuries showed similar results on either test.

3 Performance on the Block Test of Distance Estimation did not predict the quality of performance on the Road Map Test of Directional Sense (see Appendix E).

4 No correlation was found between the ability to estimate (as measured by the Block Test) and the ability to identify body parts (as determined by the Body Part Orientation Test). Some respondents made few errors on one test and significantly more on the other.

5 The accuracy on the Block Test was a predictor of the ability to estimate interpersonal distances during the Stop Distance Procedure. However, the degree of accuracy on the Block Test was not always reflected during the stop distance task. Where the subjects made many errors on the first test, they would sometimes be more accurate on the latter one. Other respondents would make proportionally equal number of errors on both tests. Furthermore, individual accuracy during the stop distance task often changed with the change in experimental conditions.

6 The relationship between the reported personal traits, demographic characteristics and the results on the tests was not examined. We felt that any such analysis would be invalid in the light of our inability to control for several other potentially significant factors such as: general health (where a medical report would be needed), understanding of the exact location of brain injuries (individual reports were superficial and not always accurate), state of mind (depression could have led to forgetfulness, passivity, etc.), intelligence test results. Moreover, the self reported personality characteristics of the brain injured, often

did not reflect the observed reality. For instance, some subjects reported shyness or difficulty in establishing friendly relations with others, but when observed, they seemed to socialize happily, even with us, complete strangers.

H. Some Unusual Observations of The Study

1. Some of the brain injured and "normal" respondents felt that their arms were not really parts of "them" but rather served as protective devices to defend their true "self" which was located somewhere in their torso, usually in the chest.

2. Some of the "normal" and brain injured respondents had a larger personal space along a side of the body which they perceived as deficient. For instance, one "normal" subject exhibited a larger spatial preferences along the left side of his body because he was deaf in the left ear; one brain injured respondent had a larger personal space along his right side, because he was blind in the right eye; and another subject reported a larger personal space around the left side of his body which he injured in a car accident. Still another person felt very protective about his head which was injured by a falling object. These observations support the notion that personal space acts as a protective barrier.

3. The brain injured respondents typically focused on the face and eyes of the approaching experimenter, while the "normal" subjects largely concentrated on her gait and pace. One subject even stated that her slow gait created an aura of suspiciousness around the procedure. If people walk slowly "you get suspicious automatically". This observation may indicate that some of the brain injured respondents may have been using a different set of criteria to establish a "comfortable" stopping distance. They seemed more interested in the experimenter's feelings about coming up close to them. By focusing on her gaze and facial expression, they were better able to read her nonverbal cues. The "normal" respondents on the other hand, seemed to have depersonalized the task of deciding when to say "stop", by focusing on the technical aspect of the procedure, namely the interpersonal distance, pace and gait of the approacher. Perception of the duration of the approach may play an important role in eliciting discomfort about interpersonal space.

4. Personal space may not necessarily be associated with the discomfort of being physically too close to someone. It may be associated with a suddenly changed perception of the other person, but not necessarily a negative perception. Some brain injured subjects said that they said "stop" when they became more "aware" of the presence of the approaching experimenter. One person suddenly saw her face "magnified" and knew that this was the time to say "stop". On the basis of this observation we maybe tempted to change the definition of personal space from implying discomfort about interpersonal closeness, to implying only a changed perception of the approaching other. It is quite possible that everyone experiences a sudden perceptual change when someone else crosses their personal space boundary, and only after experiencing this change, one labels it as positive or negative. During sexual activities for instance, one typically labels interpersonal closeness as pleasurable. Under different circumstances, however, the same individuals may feel very uncomfortable when standing too close to each other. It is also possible the brain injured respondents who did not report any discomfort, in fact felt no discomfort. They may have experienced a sudden perceptual change when the experimenter entered "their space", but still may not have labeled this change as unpleasant.

5. Some respondents waited for the "right time to say stop", as if they were monitoring their feelings during the approach, while others suddenly felt the need to say "stop". Those who experienced a sudden need to stop, typically reported that they had to say "stop", and that it was "a very strong feeling".

V. CONCLUSIONS

This experiment is the first known investigation of the personal space of brain injured persons. We compared the personal space preferences of two groups of respondents: a control group, selected from among the staff and students of the Sociology and Geography Departments, and an experimental group, consisting of brain injured persons from the Northern Alberta Brain Injury Society (NABIS). Our objective was to examine the impact of brain injury on the maintenance and regulation of interpersonal distance. We anticipated that distance measurements, would not necessarily capture the prime difference in spatial responses, so we paid close attention to experiences reported by both groups during the experiment. Chapter II, Section C outlines the six questions addressed by this study, which we now review.

The first question addressed the existence of personal space of the brain injured.

We found that all the respondents had a personal space, manifested by their reaction to physical closeness of another person. However the nature of those responses differed from "normal" respondents. They reported different experiences during the approaches than the control subjects and seemed to surround the formal experimental procedures with a context and interpretation of their own. Some respondents experienced negative physical sensations such as numbness, or stomach tightness, while some reported sexual attraction towards the experimenter, and enjoyed the sensation of physical closeness with her.

The second question concerned the size, shape and permeability of the personal spaces of the brain injured versus those of normal respondents.

While some subjects displayed personal space similar to the control respondents, others responded differently. Four of the brain injured had personal spaces which fluctuated between large spaces and a touching distance of 10 cm. Other subjects exhibited large personal spaces while one individual seemed not to have a personal space in the experimental setting, but did display spatial responsiveness when unobtrusively observed in "natural" interactions.

The permeability of their personal spaces also displayed distinctive individual variations. Their estimates of interpersonal distance were sometimes erroneous, and their reactions during the Stop Distance Procedure occasionally reflected their beliefs about the "perceived" interpersonal distance, rather than the measured stop distances. For instance, one subject exhibited obvious discomfort at a distance of two metres from the experimenter, while reporting to perceive this distance as 50 cm. This may suggest a weakness in the definition of permeability, which addresses only the physical dimensions of personal space and ignores its cognitive aspects.

The third question examined the relationship between the ability to estimate distances and the distance at which the personal space discomfort arises.

We observed one unusual pattern among those who demonstrated difficulty with estimating distances. These respondents typically exhibited very pronounced personal space fluctuations. They often stopped the experimenter very early into her approaches, while soon after, allowed her to bump into them.

We find two plausible explanations for this observation. The first suggests that memory loss could prevent one from remembering how far one stopped the experimenter previously. Lacking a frame of reference, one would perceive each approach as a new experience. Each "new" experience would in turn carry a new emotional load, superseding any previous experience. Second, their unusual personal space fluctuations may have reflected their anxiety about the task of estimating distances and/or making errors. They may also have feared causing the experimenter to overstep her boundary of discomfort.

The fourth question addressed the cues that the brain injured rely on when deciding that they feel uncomfortable about interpersonal distance.

Numerous responses to this question were provided. Some respondents reported unpleasant physical sensations such as stomach tightness or numbness along a side of the body when the experimenter got to close to them. Others, who were not as attuned to physiology, indicated that they were concerned about violating the social norms regulating interpersonal spacing. They typically wanted to maintain a "good conversation distance", or a distance which is "appropriate for women". Most reported side to side closeness as being more socially acceptable than face to face closeness. When these social norms were threatened, they suddenly felt uncomfortable and did not want the experimenter to come any closer. Some respondents used the experimenter's assumed feelings about getting too close as a justification for halting the approaches.

Several of the brain injured expressed sexual undertones in their reports. They clearly attributed sexual meaning to the Stop Distance Procedure and either felt uneasy about having sexual feelings under the circumstances, or enjoyed the opportunity to be physically close to the experimenter. Their uneasiness about sexual feelings stemmed from various concerns, such as uncertainty if the experimenter reciprocated those feelings, or uncertainty about the "appropriateness" of such feelings in a public place. One respondent was afraid that he might not be able to control these feelings, and therefore chose to withdraw from a portion of the experiment. On the other hand, one subject enjoyed the opportunity to stand in a close proximity to the female experimenter and even invited her to bump into him.

We suspect that sexual connotations may have played a role in the spatial preferences of "normal" subjects. Even though none of them expressed any sexual feelings, and despite their most frequently reported stopping criterion being a "comfortable conversation distance", we must ask ourselves why a smaller distance would be uncomfortable? North American culture does not allow for an open expression of sexual feelings, so the subjects would not likely report any sexual feelings, especially during the formal circumstances of an experiment at university. The subjects may even have repressed such feelings. Recall also that one respondent consistently stopped the experimenter at a short distance of approximately 30 cm. Why would he do that? It is possible that he learned to maintain small interpersonal distance, but it is also possible that he was attracted or wanted to attract, the female experimenter. It is possible that both groups had sexual feelings, but that only the brain injured disclosed them. Discussion of sexual matters during some of the weekly NABIS counseling sessions may have acclimatized the brain injured subjects to be more open about the topic than the control respondents. Their brain injuries may have instigated some loss of control over their sexual feelings, while counseling may have further desensitized them to discussing these issues.

If we assume that only the brain injured imputed sexual meaning to the procedure, it would follow that the stopping criteria for the two groups differed. The respondents who expressed sexual feelings could be applying different set of rules to control interpersonal spacing. Their rules would be those controlling sexual behaviour under the circumstances, while the university respondents would be using norms applicable to non-sexual behaviour, simply because these respondents would not have sexual taboos to worry about. Hence, the respondents may have used different stopping criteria despite being subjected to the same experimental conditions.

The fifth question addressed the differences in preferred frontal distances as a function of turning one's head.

Consistent with other reports in the literature, our "normal" respondents exhibited slightly smaller personal space while their head was turned. The brain injured subjects with normal spaces also displayed frontal reduction" but the majority of the brain injured subjects who exhibited a small personal space or unusual personal space fluctuations, did not change their preferred frontal distance as a result of turning their head. The "normal" subjects and rest of the brain injured may have perceived the relative position of the approacher as now coming from the side. Since most of them considered "side to side" closeness to be more socially acceptable than "face to face" closeness, they may have decreased their preferred interpersonal distance for this approach. The more disoriented brain injured respondents, on the other hand, may have been less sensitive to the relative position or the distance of the experimenter.

Why did the university and some of the brain injured respondents feel uncomfortable when the approacher came from the frontal direction, and less so when their body was turned, even though the position of the approacher relative to their face remained unchanged? Were they feeling more vulnerable when their body was more exposed? Are they more protective of their body than their face, and if so, why? (One respondent who deviated from this pattern developed a fear of objects moving towards his head, as he vividly remembers being hit by an object when he sustained his brain injury). This pattern of responding seems paradoxical, as one's ability to protect oneself is limited when one's body is turned. To use both arms in defending oneself against an attacker, one would have to turn one's body to face this attacker, consequently using the time that could be crucial for self defense. On the other hand, one could argue that turning one's body minimizes the area of the body that is vulnerable to injury. If this is the case, one's arm and leg could be used as a protective shield (some respondents labeled their arms and legs as protective shields). However, all our subjects knew that there was no threat of attack during the experiment, and that the experimenter would walk towards them only as far as they would allow her. Why then choose a position of self defence? Was their fear independent of their evaluation of the situation that they were part of?

This raises a question about the nature of personal space. To what degree is human spatial behaviour guided by social learning, and to what degree is it instinctive?

The sixth asked whether there were differences in the experience of personal space when the subject acts an approacher instead as a target person.

We observed one major difference between the two groups. The brain injured occasionally increased their spatial preferences in the subject-moving condition, while the "normal" subjects decreased their preferred stopping distance. The brain injured typically felt burdened by responsibility of actually walking up to someone and deciding when to stop, while the control group generally felt "more in control, more secure". Hence the perception of control is probably the source of inter-group difference. The "normal" respondents preferred the condition where they perceived themselves as having more control over the experimental situation, while several of the brain injured felt taxed by the additional responsibility.

Overall, when asked to report their thoughts and experiences at specific times during series of approaches, the brain injured typically provided very different responses from those given by the control group. Their reports sounded erratic, inconsistent, seemingly less relevant and lengthier.

It is difficult, if not impossible to fully explain the unique spatial behaviour and responses of our subjects, solely on the basis of this study. The sample size was small, and the type of brain injuries that our subjects sustained did not correspond to those we originally sought. Also there was great variability in the quality and nature of responses in this group. Here we provide some possible general explanations for this group's unusual spatial patterns and behaviour:

1. The seeming irrelevance and inconsistency of some of the brain injured person's responses may reflect shifts in their focus of attention. What they thought about or experienced one moment, may not have been true a moment later. Their paying attention to other stimuli may have occasionally suppressed their attention to interpersonal distance, causing their personal space to become larger or smaller, depending on the content of the distracting material. The events they were focusing on, could have brought on emotional changes which could have caused them to change the distance at which they wanted the experimenter to stop. Mel's and Sarah's sexual statements and Donald's references to his girlfriend, which correlated with their personal space fluctuations, are consistent with this argument.

2 The experiences of the two groups may have been the same, but the style and content of their reports could have differed. The control respondents may have reported only "the most relevant, appropriate and consistent" thoughts, while the brain injured may have reported everything they thought about. This openness could have reflected their lack of concern about appearing consistent or sounding "appropriate". They may have perceived the rules of behaviour to be different for them as a "special" group as suggested by Mel's belief that any inappropriateness on his part should be excused by his brain injury. Even Joe's occasional lighthearted statements about his "stupidity" and being good for nothing, are indicative of this attitude.

3 Some respondents' pre-injury behaviors indicate a rebellious nature. Their brain injuries typically resulted from dangerous activities such as motorcycle riding without a helmet, drunk driving, or jay walking across a busy intersection. However not all brain-injured respondents' inconsistencies could be explained by their presumed predisposition to be non-conformists.

The difficulty in locating a unique explanation for the unusual spatial response patterns of the brain injured respondents in our study leads naturally to a discussion of the weaknesses of the study, which we outline below.

A. Weaknesses of the Study

Small sample size

Had we been able to observe more brain injured respondents, there would have been greater opportunity to observe individuals with nearly identical brain injuries and hence we could have more confidently determined which "unusual" responses were unequivocally associated with particular brain injuries, as opposed to other unique characteristics of the individuals.

Lack of detailed information about the respondents' brain injury

We found it virtually impossible to specifically attribute "unusual" responses to particular organic problems. Even the best of medical reports would only have allowed tentative connections between particular injuries and unusual responses, due to a lack of "replicate" inquiries.

Lack of information about the performance of the brain-injured in psychological tests

Such information could at least partly explain some of the responses. For instance, if we had known that an individual was diagnosed as severely depressed, or suffering from mood fluctuations, we could have better explained some of the unusual personal space characteristics.

Lack of subjects suffering from the Gertsmann Syndrome, hemiasomatognosia, or hemiplegia

Such respondents would provide us with more insight into the spatial behaviour of individuals with very distinctive spatial abnormalities

Different setting for each group

This study was set up as a "non-equivalent control group" design. While the presence of a control group is helpful, the non-equivalence of this group implies that there are a host of compounded differences to which we might appeal to explain differences between the groups. The brain injured subjects were tested in a small section of their lunch room which was fully furnished, well ventilated and illuminated by natural light. The control respondents, on the other hand, were interviewed in a large laboratory which was minimally furnished, had no windows and poor ventilation. All those setting characteristics could have impacted the results of the study. There are also educational, status and economic differences. Selecting to attribute any particular differences to a particular background is somewhat arbitrary. Similarly, substantial individual differences with the brain injured group lead to a corresponding set of compounded individual-level differences.

B. Suggestions For Future Research

In spite of some weaknesses of our study, we gained a lot of insight into the spatial behaviour of the brain-injured, and personal space in general. Many of the remaining ambiguities could be resolved with more studies of this subject. We suggest the following investigations:

1 A study of subjects with many different types of brain injuries, which allow one to correlate unusual spatial behaviours with specific brain injuries, and even record some patterns.

2 A detailed study of each of our most unusual respondents, including: unobtrusive observation of the respondents in their usual settings (NABIS, home and public places), detailed information on brain injuries, medical history, current medication, all psychological tests, as well as frequent measurements of personal space, including rear measures, might be videotaped. A video-camera could be used to record non-verbal behaviour during personal space measurement, and galvanic skin response (psychogalvanic reflex, PGR), could be measured to determine the onset of a physiological response to the Stop Distance Procedure. The PGR is a sensitive indicator of emotional arousal and an accurate indicator of the onset and changes in stress. The PGR is not under the voluntary subjects' control and one could observe the degree to which verbal reports of the onset of stress correspond to indications of stress. This might provide a better understanding of the "inconsistencies" in the brain injured subjects' spatial measurements, and in particular an understanding of fluctuating levels of discomfort at the "same" interpersonal distance. We might also find out if the brain injured subjects differ from control subjects, in terms of their sensitivity to their physiological states. Either of these groups may be more attuned to their physiology, and hence, be more accurate in perceiving the onset of discomfort during the Stop Distance Procedure.

In summary, if the PGR was used as a measure of stress, we might learn both about the physiological responses to the Stop Distance Procedure in the brain-injured and "normal" subjects, and about the degree of coordination between the verbal and physiological indicators of stress during the measurement of personal space. At least some of the ambiguity surrounding the inter-group differences in reports of experiences and thoughts might be resolved by using the PGR.

3 Observation of the interactions of subjects who demonstrate spatial difficulties would enable us to learn how such individuals regulate interpersonal distance in daily situations. Normal people take into consideration the preferences of their interacting other. The spatially disoriented may lack this powerful regulator of spatial behaviour, not knowing what the spatial preferences of the other could be. In this case, their notion of the consequences of creating an "undesirable" spatial situation would be unique as well, as they would not be able to anticipate any predictable reaction from the interacting other.

4 To study personal space from the perspective of human energy systems and to use Kirlian photography which can image the etheric body (which may be the personal space). The Kirlian systems may make it possible to go beyond present resonance technologies and to look even deeper into the subtle energetic makeup of human beings. The basic principle behind the Kirlian photography's ability to produce images on film is the corona discharge phenomenon (Wengen, 1889). In the simple electrographic apparatus, there is a high

frequency power source connected to an electrode beneath a sheath of film. A high frequency current, sent to the hidden electrode, creates an electrical field which bathes the photographic film. The film surface becomes charged at a high electric potential. When a finger or other grounded object is placed upon the film, it provides a pathway for electrons of high potential (on the film surface) to travel to low potential. Kirlian systems hold the key to imaging etheric and other subtle energetic systems. Kirlian systems have been successfully used to capture the phantom leaf effect (an energy field surrounding the leaf). The phantom leaf effect, seen via Kirlian photography, repeatedly demonstrates a holographic energy field component of living systems. The missing leaf that appears in a Kirlian electrograph appears identical in structure to the physical leaf. This phantom is a part of etheric body of the leaf (a growth temple or wave guide) that assists in the expression of the life force through the genetic potential of the plant. Kirlian photography is able to reveal the etheric phantom, a feat which literally makes the invisible visible. Perhaps personal space represents the etheric body and Kirlian techniques would provide an insight into the true nature of this phenomenon.

APPENDIX A. - CONTROL SUBJECTS REPORTS

The recording for subjects 4 and 6 was very poor and these reports are not included here. Subject no. 8 refused her data to be included here.

1. SUBJECT NO. C1 - DALE

Frontal Approach - Slightly Uncomfortable

Can you tell me what were you thinking or experiencing as I was walking towards you?

(Laughter) I was wondering why you were coming so close. Kind of like I've got some kind of a shield. I don't know. I've got instinct, that's all.

Okay, so what were you feeling or thinking just as you said stop?

(Silence) Well, I just waited for that feeling. I kept my mind blank. I was trying to keep my mind blank but I kind of noticed your presence.

Okay.

Than I told you that.

So, but as you said stop, wh, what was what were you thinking at this very moment as you said stop?

I was thinking about where your feet were.

Okay, and what were you thinking or feeling after you said stop and I was standing in front of you?

About how far that was.

So you were trying to estimate the distance.

Yea. Because you asked me to. You told me that after you stopped and asked me how far I think you are away from me.

Okay. And how would you say in few words what made you say stop?

Uh, Uh, Where is that magic word?

Okay, wh, did you wait for the right time to say stop?

Yea.

Were you waiting for a certain time?

No. As I said, when I started feeling so. When it came to me, this feeling.

So.

When it came to me. When I noticed your presence, that's when I said stop.

And aa, can you tell me why you feel uncomfortable at this distance?

Well, I don't know if it is really that uncomfortable. It's kind of uh, I kind of have my own certain area, that's when I noticed you, put it that way. You notice someone.

Okay, and what were your feelings as I began to walk towards you.

(Long silence)

What were your feelings?

(laughter) I kind of wondered why you were walking like this. Strange feelings, like you were walking like a bunny rabbit or something.

So what you were actually focusing on was the way I was walking.

Yea, but.

Okay, now try to remember as I was walking towards you and if there is anything else that you, that you thought about but you didn't tell me?

Ugh, No, I don't think so.

So there was nothing.

No.

Left Angle Approach - Slightly Uncomfortable

Can you describe what you were thinking or feeling just as you said stop?

You were walking so slow.

So that was the main thing you were thinking about.

Yea.

Nothing more.

No. I, people don't walk that slow. You get suspicious automatically. *(laughter)*

Suspicious.

Yea. *(laughter)* Kind of walking like this. When they're coming you anticipate them coming to your zone, but you know, if someone's rushing by, you don't.

So you are actually aware of having a zone.

Well, I guess now I am, yea, I think I have one thing or another, something like that.

Okay, can you describe what you experienced just as you said stop?

Ugh, I would say, a feeling where you kinda notice that someone is coming within this area and then you get your pulse. *(laughter)*

How would you describe what actually made you say stop?

(Silence) This, I knew I had to give a verbal cue like this If I, I would probably hit you in the nose. You get the idea I just said stop.

Okay, so there was still an idea of an arms reach in your mind.

Ooh yea. Well, it was a bit closer than arms reach because if I put my arm out I would have hit you, so I think you were a bit closer than arms reach.

Right Side Approach - Slightly Uncomfortable

So what you were thinking or feeling just before you said stop?

(Laughter) I was thinking of those Chinese people that have small feet and walk like that, kinda shuffle around.

So you were still looking at my gait and the pace of my movement.

Yea. Totally unnatural.

I see, okay. Did you feel any different when I was moving from this side than from the other side, or there was no difference?

Well, this is my stronger side, so I think I feel different on this side, I would say.

What do you mean by strong?

I am right handed.

So it makes a difference?

Ooh yea.

But how different that was?

I know that if you got too close I could grasp you easier and this is kinda awkward. Yea, it is kinda awkward. Now I realize that.

So it was more of an awareness of what you could do with this side of the body as opposed to what you could do with the other side.

Yea. Left side is my weak side.

And you became aware of that as I was walking.

No. It is always on the back of my mind. It's a different feeling.

Frontal Approach - Very Uncomfortable

So what were you feeling just before you asked me to stop?

You glanced at Les, your attention slipped and then you looked at me again.

Can you tell me what you experienced just as you said stop?

More comfortable at this point.

Why?

I knew you wouldn't come any closer. The pressure was gone, put it that way.

Okay.

APPENDIX A. CONTROL SUBJECT REPORTS

1. SUBJECT NO. C1 - DALE.

Reversed Roles

What were you thinking or feeling just before you began to walk towards me?

That I would get closer to you that you would to me.

Why?

Because I felt less threatened when I did the walking. Because I am more in control that way. I guess that's what it is.

What were your feelings just before you sstopped?

I was concerned about what's socially acceptable.

So were you concerned more about what you felt or what you were thinking that I thought?

Concerned of what you thought.

Are you more comfortable when I walk towards you or when you walk towards me?

When you walk towards me.

2. SUBJECT NO. C2 - DONNY

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were feeling or experiencing as I was walking towards you?

(Silence) You look more nervous than me *(laughter)* so I was trying to figure out why you look more nervous than me.

Nervous?

That's pretty much what I was thinking about.

Okay can you describe what you were feeling just as you started to say stop?

I allowed you to get as close as I would anybody get.

So was it a point where you really began to feel uncomfortable or a point where you wouldn't want me to be any closer?

I imagine where I wouldn't want you closer than that. I am not sure if I wouldn't let you closer but I definitely would feel much worse if you got closer, put it that way.

So it wasn't a point where you began to feel uneasy?

No, I just keep everybody that far.

So it would be a standard distance for anybody you were interacting with?

(Long silence) Everyone that I don't know really well, yea.

Obviously. *(laughter)*

How would you describe what made you say stop?

(Long silence) I don't know you really well. It just seemed right to stop you there. I felt I had to do it.

What was it?

A feeling, a strong feeling.

What kind of feeling?

I don't know. I can't describe it. Just a feeling. I just saw you and felt that that's enough.

Did you actually try to estimate the distance that I was standing from you?

No, not really.

So you just relied on the feeling?

I guess. Distance was the key issue.

Did you feel the distance or guessed it?

(Laughter) It's hard to say. I guessed it but I also felt that you were too close.

Did you wait for the right time to say stop?

Mhm.

And why you feel uncomfortable when I get this close?

(Silence) I just don't know what's gonna go on after that. I feel that you will walk into my nose.

So it's anticipation.

Mhm.

What were you feeling before I began to walk towards you?

(Long silence) Just looking you over, trying to read your intentions. What were you thinking. *(laughter)*

Now try to remember as I was walking towards you and tell me if there is anything else that you felt or thought about and didn't tell me?

Uhm, I was trying to guess how you felt and also thought about why you took such small steps.

So gait was the focus of your concentration.

Mhm.

Left Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

I wasn't thinking a whole lot. I guessed you were close enough.

Can you describe what you experienced just as you said stop?

Not really. My neck really hurts. It had to turn that far around. *(laughter)*

So how would you describe what made you say stop?

(Long silence) Just that you were close enough. Probably if you were in my line of sight you would have gotten closer than that. I had to turn my neck and it really hurt.

Right Side Approach - Slightly Uncomfortable

What were your feelings or your thoughts before you asked me to stop?

Just that you were close enough.

Is it different for you when I walk towards you from this side than from the other side?

I would rather have people walk towards me from this side as I am deaf on my other side. I can hear them better this way.

Frontal Approach - Very Uncomfortable

Can you describe what you were thinking or feeling just before you said stop?

Just that you were so close that I could smell your perfume.

How about just before you decided to stop me?

(Long silence) Just that I didn't want you to get any closer.

What were you afraid of?

Of colliding.

Roles Reversed

Can you describe what were you feeling or thinking just before you began to walk towards me?

Just how close I would go before feeling uncomfortable.

Do you still feel uncomfortable at this point?

Mhm.

Do you feel more comfortable when I walk towards you or when you walk towards me?

When I walk towards you.

Why is that?

Because it's up to me how far I will go.

So it's a question of control.

Yea, sure.

3. SUBJECT NO. C3 - TONY

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking or experiencing as I was walking towards you?

Uhm, uhm. Just a little bit uncomfortable, I think.

Why?

Because you were looking at my face. I don't know.

Okay, what were you feeling or thinking just as you started to say stop, when you began to say stop?

A little bit uncomfortable.

Because of the eye contact?

Yea.

Okay, what were you feeling after you said stop?

I guess, a little bit more comfortable.

Why?

I don't know. More comfortable.

So you felt more comfortable after I stopped than before you said stop.

Yea.

How would you describe what made you say stop?

(laughter) Uhm, uhm, maybe I was a little bit pressured, I would think. I don't know.

Pressured?

Yea. I didn't know when to say stop.

So you were waiting for the right time to say stop.

Yea.

Okay, why do you feel uncomfortable when I get this close?

(silence) I am not too sure. It's just that I am not used to being so close to people. That's all.

What were your feelings before I began to walk towards you?

Uhm, ooh, I don't know.

So you were not feeling any different?

I didn't say that. I just don't remember.

It started happening as I began to walk towards you?

Yea. Something was happening. suddenly I felt uncomfortable.

Now try to remember as I was walking towards you. Is there anything that you didn't tell me but thought about during the experiment.

Uhm, nothing.

Left Side Approach - Slightly Uncomfortable

What were you thinking or feeling just before you asked me to stop?

A little bit pressured, I would think.

Pressured?

Yea.

Why pressured?

Ugh, well I am more uncomfortable because someone is coming at me. When you walk towards me I feel pressured to stop you. When you stop I feel more comfortable.

So as you said stop you felt better?

Yea.

How would you describe what made you say stop?

*(Silence, laughter)*Uhm, uncomfortable is what made me say stop I felt uncomfortable.

So what were you worried about?

I don't know. It's, uhm, I don't know.

General uneasy feeling?

Yea.

Right Side Approach - Slightly Uncomfortable

What were you thinking or feeling just before you asked me to stop?

Uncomfortable.

Did you feel any different when I was moving towards you from this side than from the other side?

No, not at all.

No?

The same.

Subject Turned Right - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

Uhm, very uncomfortable.

What were you worried about?

I don't know. *(laughter)* That you would knock me over, maybe *(laughter)*

You thought that I would push you over.

(laughter) No, no.

How did you feel just before you decided to stop me?

Relief, comfortable.

So actually before you said stop you felt much better bbecause you knew you were saying stop.

Yea, I knew you would stop.

Okay, what you experienced just as you said stop?

(Silence) Uhm, uhm, a prompt relief.

So actually when you said stop and I was standing at this distance from you, you didn't feel uncomfortable?

No, not at all.

You didn't.

No.

It didn't make any difference to you.

No.

Interesting.

Yea, I wasn't threatened any more. You stopped.

Roles Reversed

Can you describe what were you thinking just before I began to walk towards you?

(Silence) Nothing. Actually, I don't remember.

Are you still uncomfortable at this distance?

Um, no, not at all. I felt a bit uncomfortable before I stopped and then I felt comfortable.

Did you feel more discomfort when I walked towards you, or when you walked towards me?

When I walked towards you.

Why is that?

Uhm, I am not too sure. Maybe because I am in control that way. When I approach a person I am less threatened than when someone's approaching me.

Thank you.

4. SUBJECT NO. C5 - KATHY

Frontal Approach - Slightly Uncomfortable

What were you thinking or feeling as I was walking towards you?

(Laughter) At the beginning it did not bother me at all, but later I began to feel uncomfortable.

Why?

It wasn't that I was afraid of you touching me. It was more of a fear of an accident. The same way as you are afraid of a car that is close by. You feel bad when it is standing too close to you.

So you were afraid that I would stumble and hit you?

Yea, something like that.

What were you feeling just as you said stop?

Ooh, probably that it was a proper distance. *(laughter)* Suddenly it became more uncomfortable for me as I began to think of an accident or something.

How would you describe what made you say stop?

Uhm. I felt different. I didn't feel uncomfortable. You were just too close. I wasn't afraid of you but you were a different person when you were standing so close to me.

Did you wait for the right time to say stop?

Uhm.

Why do you feel uncomfortable when I get this close?

I didn't feel uncomfortable.

So how did you feel?

Just different. Not uncomfortable.

What were your feelings before I began to walk towards you?

I didn't know when I would tell you to stop. I didn't know how close I would allow you to get.

So it's a question of anticipation?

Yea.

Try to remember as I was walking towards you and tell me is there anything else that you thought about but didn't tell me?

Nothing.

Left Angle Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

I don't see any difference in what I feel this time. It is the same.

Okay, what did you experience as you said stop?

I just wondered how close you were.

You were just thinking about the distance, why?

Because I am taking part in an experiment, that's why. I didn't have special feelings that you are so close. I wasn't afraid of you. *(laughter)* It didn't make any difference to me.

So what was it that actually made you say stop?

It is not difference for me in this case. I have the same answer for all directions. I will not answer anything different.

Okay, we will see about that.

Right Side Approach

Did you feel any different when I was walking towards you from this side than from the other side?

No.

Frontal Approach - Very Uncomfortable

Okay, what were you feeling just before you asked me to stop?

I didn't feel uncomfortable at all. *(silence)* I wasn't afraid of you. I know you already. You are not a stranger to me. I didn't feel discomfort with you there.

Okay, what did you feel before you decided to stop me?

Maybe that you were too close to me. Not because you could accidentally touch me or anything.

So what was it?

It was the same as with the longer distance. I wasn't afraid that you would touch me, but it is the same as with that car. You are not afraid to touch a car, but you are afraid that it may hit you or something. But it is not that I didn't want you to touch me, or that I was afraid of you.

So it was more of a fear of an accident.

I wasn't afraid that you would touch me.

Can you tell me anything about what you experienced just as you said stop?

I wasn't afraid that you would touch me at all.

But you were afraid of an accident.

Yea. I wasn't relieved or anything.

Reverse Role

What were you thinking or feeling just as you began to walk towards me?

It doesn't make any difference if I walk or you walk towards me.

5. SUBJECT NO. C7 - VICKY

Frontal Approach - Slightly Uncomfortable

Can you tell me what were you thinking or feeling as I was walking towards you?

When to stop you.

So you were just thinking of the task of stopping me.

No, I was just watching you come closer and thinking how I felt. That's all.

I see. And what were you feeling just as you said stop?

Ooh I didn't think that much, except for a general feeling of anxiety.

But as you started to say stop, what were you thinking or feeling at that particular moment?

Nothing.

Nothing at all? Blank?

(Laughter), yea.

Okay, what were you feeling after you said stop?

Nothing different.

So your feelings did not change from before you said stop.

No.

What were you feeling after you said stop?

Nothing different.

So your feelings did not change from before you said stop.

No.

So what were those feelings?

A general level of anxiety.

Which, which were uhm, and nothing happened with the level of anxiety as you said stop?

It's hard to say.

Okay, so how would you describe what made you say stop?

It came from inside.

So it came from inside?

Yes.

Something must have triggered your decision to say stop. So what was it that actually made you say stop at that particular moment?

Ooh, that you were getting close enough.

Say that I was getting close enough?

(Long silence) Yes. But how did I feel, what did I think?

But were you?

But I don't think I experienced any change. Nothing like that.

Mhm, so okay, can you, can you describe your feelings before I began to walk towards you?

Just anxious.

But what were you anxious about?

(Silence) Mhm, I don't know. Probably just a novel situation, put it that way.

Okay.

Well, this sort of thing. I mean I watched you coming.

In other words you don't have to focus on people approaching you.

No, I don't have to.

Okay. So now try to remember as I was walking towards you. Is there anything else you didn't tell me that you were thinking about?

(Long silence) No. I cannot recall.

Did you se me clearly as I was walking towards you?

Yes.

Can you describe what you were thinking or feeling just before you asked me to stop?

(Long silence) I wasn't thinking of a lot of things.

But your mind couldn't have been blank.

(Silence) It was. I am not thinking in terms of talking to myself internally. Ugh, right now I am in a general state of apprehension because I have a paper to write. The deadline is close and I am under a lot of pressure. I am in a subconscious state of apprehension but I am not consciously thinking about these things.

So can you describe what you experienced just as you said stop?

(Long silence) A slight change somehow.

Slight change from what?

A relief. Yes, a relief.

What kind of relief?

Uhm, a relief from the task. From not having to concentrate on you walking towards me and your distance from me. These tasks have stopped.

Would you say the task is yours or mine?

The task is mine.

How would you describe what made you say stop?

Your closeness.

Okay, why would my closeness bother you?

Because you were this far from me and if you came closer, you would be too close.

But why?

(Silence) Uhm, probably because of the nature of my relationship with you. I keep people that are friendly at about arms length. It becomes a full distance from one another. Depending whether it's face to face or side to side. Side to side is a bit different.

How is it different?

Well, side to side is close. Usually as you walk along the hall with someone it's closer shoulder to shoulder while face to face is different as you watch their facial expression and they're watching yours. It's a different situation.

So the ability to watch facial expressions has something to do with spatial preferences?

Probably yes. I don't know. I think so.

Right Side Approach - Slightly Uncomfortable

Can you describe what you were thinking or feeling just before you asked me to stop?

(Long silence) I was concentrating on the task.

So it's still a task.

Yes.

Yours or mine.

Mine.

Did you feel any difference as I was moving from this side than from the other side?

No. Just a bit of discomfort. Physical discomfort.

Can you describe it?

No. I can't.

Frontal Approach - Very Uncomfortable

What were you feeling just before you asked me to stop?

Amusement.

What does it mean amusement?

(Long silence)

Do you still feel amused?

A bit.

Why?

Just close enough.

Close for what?

Place where I feel discomfort.

Roles Reversed

Can you tell me what you were feeling or thinking just before you began to walk towards me?

Different.

How different?

I was walking. I was in control totally.

Do you still feel uncomfortable at this distance?

No, not any more.

Do you feel more comfortable when I walk towards you or when you walk towards me?

When you walk towards me.

Why?

I don't know. When you walk I am passive. I hate this why, why question. It puts me on the defensive. It's always why, why. I don't know why. I take it as an aggressive act to ask me why all the time. I feel defensive.

Okay.

6. SUBJECT NO. C9 - RENA

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking or feeling as I was walking towards you?

(Long silence, laughter) I didn't think. *(laughter)*

No wh, what went through your mind as I was walking towards you?

(Long silence) Not a whole lot. *(laughter)*

But your mind could not have been blank. Something must have gone through it as I was walking towards you. You must have been thinking about something during that time.

I don't know what I've been thinking. *(laughter)*

Okay, can you describe what you were feeling just as you said stop?

(Long silence)

Nothing at all?

No.

Okay, what were you feeling after you said stop?

(Long silence) I thought about distances. *(laughter)*

You were thinking about the distance?

Yea *(Long silence)*

Okay, so how would you describe what made you say stop?

What was it that actually made you say stop?

(laughter) My feelings. *(laughter)*

Your feelings? What kind of feelings?

(Long silence)

Bad feelings, good feelings or strange feelings, any kind of feelings?

Well,*(laughter)* normal feelings. *(laughter)*

Just a general feeling?

Yea.

Okay, did you wait for the right time to say stop?

(laughter) I think so.

Yea?

Yes.

Okay, can you tell me why you feel so uncomfortable when I get that close?

(Silence) I guess that you wouldn't stop and knock me over.

(laughter)

That's okay. What did you feel before I began to walk towards you?

Normal.

Normal? Nothing different?

No.

Okay, so now just remember as I was walking towards you. Is there anything else that you thought about but did not tell me?

(silence) No.

From that moment on, this subject answered only the following questions. She responded to all other questions with silence.

(Question following the approach from the subject's right side) **Did you feel any different when I was walking from this side than from the other side?**

No.

(Questions following the frontal approach with a very uncomfortable cue) **Why did you ask me to stop at at this very moment?**

I don't know. No, I just thought it was a good distance.

Can you tell me what you experienced just as you said stop? What did you feel or think at that very moment?

Close enough. Close enough to talk to you.

(Questions following the roles reversal) **Do you feel more uncomfortable when you walk towards me or when I walk towards you?**

When you walk towards me. Because I am doing the movement and you are standing there still.

APPENDIX B - BRAIN INJURED SUBJECTS REPORTS

The star sign (*****) indicates that the recording of the conversations with the respondents was not clear. The transcript attempts to reflect all the utterances, as exactly as possible.

1. SUBJECT NO. B1 - KEN

Frontal Approach - Slightly Uncomfortable

What were you thinking about or experiencing when I was walking towards you?

About what the purpose is.

Were you feeling anything? Did you have any kind of feeling?

Basically thought that there was no physical

As you were focusing on the purpose of the whole thing, okay?

I certainly have a distance of three feet around me.

Can you describe what you were feeling just as you started to say stop?

That's close enough.

Why?

Because that's why.

That's your distance

That's my circle.

Okay, you say you have this circle around you, three feet, how do you know this circle around you is three feet?

Just an instinct, that's it.

Three, you say you have an instinct that tells you it's three feet, right? Did you have that feeling for a long time? Was it always three feet?

I can't really answer that. I don't know because I suffered a memory loss. I don't know what I was like, say, three years ago.

Okay, and how do you know it's three feet?

Ooh, it's there, from there to there (subject pulled his arm out).

Like towards you? How far is it from there to there?

Ooh, about three feet.

So actually you say it was the arms length that

Arms length, yea.

Okay, and, uhm, say someone comes closer than that. What do you feel at that point? How do you know that?

An arms length is three feet. *(laughter)*

Is it a sort of a mental operation that you know that's three feet, or is it something that you feel?

I don't know if I can answer you.

You don't know it?

I don't, it's just an almost automatic response.

Okay, uhm, can you describe what you were feeling after you said stop?

Just stop. I felt uncomfortable. When you stopped, comfortable.

You knew I was coming closer, right?

Uhm

What did you think, okay? What would you think would happen if I came closer than that?

Uncomfortable.

Okay and how would you describe what made you say stop?

An instinct, 3 feet distance.

Distance, okay? Did you actually wait for the right time to say stop?

I kind of judged.

So were you waiting for the time that I would come to that arms length?

Yea.

So did you actually anticipate that I would get to that point?

Yea.

Okay, can you tell me why you feel uncomfortable when I get to that point?

I don't, I don't feel uncomfortable when you are at that 3 foot point. I feel comfortable that that's close enough.

So in other words, if I came closer than that, you would begin to feel uncomfortable.

Yea.

Can you describe your feelings before I began to walk towards you? I was standing here and I was just about to start walking towards you, what were you feeling before I began?

I was quite, whether you would be taking big steps, whether you would be walking fast.

So you were thinking about how I was going to walk, what I would do?

Yea.

Okay, try to remember as I was walking towards you. Is there anything else that you can remember thinking about but you didn't tell me yet? Is there anything else that comes to your mind as you remember that?

No, well, you were coming at certain speed, then you slowed down. I wondered why you were going at this speed.

Left Angle Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

How far were you.

How far I am? Okay, why were you thinking that?

Because you came into my boundary. *(laughter)*

Okay, did you, okay, when I stopped and you said I came into your boundary right? Did you have a distinct feeling that I was, that I reached that point, that boundary of yours?

Yea.

What happened, what did you feel?

Time to say stop.

Just, did you have any physical sensation at all?

(Long silence) Just a psychological instinct telling me.

About that boundary?

Yea.

Okay, uhm, I am just wondering, as I was walking towards you, did you, did it ever cross your mind what I was thinking at that point?

Uhm

So you were thinking what I was thinking.

I don't know if I was thinking what you were thinking.

Okay, can you describe what you experienced just as you said stop?

Stop.

Did you experience any difference as you said stop as compared to before as I was walking towards you?

(Silence)

Did you feel any different at all at that moment?

Not that I can remember.

Okay, how would you describe what made you say stop?

(Long silence) That you were in my boundary.

Okay, uhm, did you feel any difference when I was walking towards you from this side than when I was walking from the front?

No.

Not at all?

No problem******direction.

Left Side Approach - Slightly Uncomfortable

Can you describe your feelings or thoughts just before you asked me to stop?

(Long silence)

Just before you said stop, what did you feel?

That I wanted perhaps to say stop. That was the feeling.

Really? Were you thinking what I was thinking and then you would say it?

I guess, yea.

Ooh, that's interesting. If, as we are doing these repeats do you feel more comfortable as the time goes by?

I am uncomfortable standing in the same spot.

Okay, but as far as I am concerned, as far as you see me walking towards you, right? You feel more or less comfortable, or the same as we do the same thing?

More comfortable.

More comfortable? Why

Yea, because it's becoming routine.

You are anticipating. The next thing, you will walk from this angle, it will be the same thing

That's exactly what I am going to do.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop. Just before that?

That's it, close as you come.

Did you feel anything?

Nothing. Just a thought.

Just a thought?

Yea.

Okay, did, did you feel that I passed, crossed your boundary?

Yea.

So you felt that this little circle of yours was being invaded?

Yea. I felt I let you in much further.

Okay, how about, what did you feel just before you decided to stop me? What did you feel at that moment? Just, just before this moment you said stop?

Uneasy.

Uneasy? How uneasy, why?

Well, I wasn't relaxed, getting to get tense.

Yea? But why? What was it that made you tense?

You crossed my boundary here (laughingly).

Were you afraid of me?

No, not afraid.

Uhm, so why, why, why didn't you want me any closer than that? What did you think would happen if I came any closer?

(laughter) I don't know what would happen. I don't like you to be getting any closer. This is *my* little space here. It's *my*.

And it's only yours?

(laughter) I guess.

So as actually I was walking and stopped, you had this, you began to feel strongly that you had this space.

Uhm

So you became aware of it?

Yea.

More?

More aware of it, than before, because I let you come a little further.

Okay, one more question about that. As I was walking towards you, did you notice any difference about me as I was getting closer, did your way of looking at me change in any way, say from this point to where I stopped?

Your facial expression changed.

How?

I, I can't remember at all.

So you looked at my facial expression

(Long silence) Yea.

Okay, did it make any difference for you?

(Long silence) How close should I let you get.

Okay, can you tell me anything further about what you experienced as you said stop?

(Silence) Not really, no.

You didn't, you can't remember. Okay, you said stop. Did you feel anything different? Uhm, say from the time that I was walking?

(Silence) I, I just said stop.

Roles Reversed - Slightly Uncomfortable

Okay, uhm, you still feel uncomfortable at this distance?

I feel relaxed. This is as I.

Okay, can you describe what you were thinking or feeling just before you began to walk towards me?

How close I should get.

Okay, were you thinking of what, were you concerned about your feelings, or were you concerned about what I feel?

(Silence) My feelings.

Your own. Okay, do you feel more uncomfortable when I walk towards you or when you walk towards me?

(Silence) You walked towards me many times. I walked towards you once, so I don't know whether I felt more comfortable when*****

Okay, just remember the time.

I guess, the same.

The same?

Yea.

2. SUBJECT NO. B2 - LARRY

Frontal Approach - Slightly Uncomfortable

Can you tell me what were you thinking about or experiencing as I was walking towards you?

That's weird.

Weird?

This is weird what we are doing, this thing.

You feel like that.

Yea *(laughter)*. Under normal circumstances you meet somebody you know, in a bar. It's different because its different circumstances. I feel like an idiot.

I don't want you to feel like an idiot.

Ooh, I do.

It's only a measure of spatial preferences of people. Do you feel you are disturbed by the fact that there are these markings on the floor?

Uhm.

You are.

(Les) Is it maybe because I am behind you? Does that bother you?

(laughter) No, It gets pretty uncomfortable. I don't know really, I really don't *(laughter)*.

But was it a good feeling or a bad feeling?

(Long silence) Different, I don't know.

Just different?

Yea.

Okay, what were you feeling just as you started to say stop.

(Long silence) That you were getting too close, I don't know.

Too close?

Mhm.

Too close for what?

(laughter) I don't know, all these questions, uhm, I don't know.

What were your feelings before I began to walk towards you?

(Long silence) I can't remember what's gonna happen.

So you were thinking of what would happen?

Mhm.

Left Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

Mhm. I don't know. I think so much. I don't know.

What do you remember?

Nothing, just blank, it's supposed to be. This is, why I was involved in this. I was thinking actually.

Okay, uhm, can you describe what you experienced just as you said stop?

(Long silence) Good question. I don't know. I don't know if I was experiencing anything. Nothing really. Was, that's close enough, I guess, I thought (laughingly). I don't know.

Close enough. So you were, you felt it was just the right spot where you said stop.

Mhm.

Okay.

Close enough.

How would you describe what made you say stop?

It was something inside I guess. I don't know. A boundary you were talking about, but close enough if you don't know somebody. If you know somebody it's closer but.

Were you thinking what I was thinking or were you just thinking or were you just thinking from your point of view?

I was thinking when you were at arms length.

You were thinking about arms length. Okay, so, and you said stop and I stopped. I mean, before you said stop, were you at all thinking if, whether I would like to stop, or were you thinking only about you.

About me.

Whether you want me to stop?

Yea, but also about you.

What is that?

I don't know. I always think what other people are thinking.

So you think more about others than what you think.

Yea.

And you try to project your feelings towards others?

Yea, but also get nervous because I am in a situation, in an experiment. I don't know. Something is not right.

Right Side Approach - Slightly Uncomfortable

What were you thinking and feeling just before you asked me to stop?

(laughter) Not again. As before, I don't know. It's... I don't know, it's a good question. The answer.

There must have been something inside that actually made you say it.

So uh, what was it that made you say it?

(Long silence, laughter) I don't know. I don't know, I really don't.

Okay. Did you feel any different when I moved towards you from this side than from the other?

No.

The same.

Frontal Approach - Very Uncomfortable

(Comment during the approach) You might knock me, run me over.

Okay, one thing, I am not going to touch you. Can you describe what you were feeling just before you asked me to stop?

Not that question again, not that question. No, I can't describe it *(laughter)*. I can't let you get too close, I guess as before, if I don't know you.

Just too close.

Yea. For comfort.

Did you feel, can you describe what you felt just before you decided to stop me?

That question is harder *(laughingly)*.

Just before I asked you to stop.

You were getting too close in my space.

Actually, did you have a sensation of having a space?

Not, but in this experiment I do.

How, okay, I know it's a difficult question but I am quite curious. How does this space feel. How do you know it's there?

(Long silence). I don't know, uhm, just space, I guess right? Everyone has a space *(laughter)* and the closer you get the more Uncomfortable It's hard.

Okay, but this space of yours which you are aware of is invaded okay? Do you have any physical sensation of it or not?

No. I don't know. It's not a set space like Canada's fishing waters or... It's just there. I don't know. I never thought of it until now.

But you feel it's there.

Yea.

Do you feel it physically, or you just know it mentally.

Mentally.

Can you tell me what you experienced just as you said stop?

Just stop.

This very moment you said stop.

I wanted you to stop. You were getting too close.

Did you feel any better the moment I stopped and wasn't getting and closer?

No. Actually I should have let you go further, to see what's gonna happen.

So why didn't you?

(laughter) I am just kidding.

Did you feel that you could actually let me get closer?

No, I don't know about that.

No.

I have a bit morbid sense of humour, so to get straight answer is pretty hard.

Okay, did you, as you said stop, and I stopped in front of you. Did you, did you have any different sensation, did you have any kind of feelings that I was, did you have a feeling of a boundary or anything?

I don't know.

So why did you feel uncomfortable at this point?

(laughter) I don't know. Because I don't know you, I guess.

Actually how could you describe what made you say stop?

I don't know. I have no idea. I just thought I should say it.

You thought you should say it.

Mhm. *****.

No, don't think about it. Any kind of answer is interesting, it's great.

It's hard to describe sometimes. I can write my feelings much better than say or express them. On paper it's easier. This way it's hard.

But this feeling, you said, you had that feeling right? Do you think it came from inside or it came from outside?

Well, all feelings come from inside, right?

Did you, did you wait for the right time to say stop?

Yes. (Mhm).

You did, then you felt the right time has come and you said it?

I suppose.

Okay, can you tell me why you feel uncomfortable when I get this close?

I don't know. I don't know that (whisper).

Would you feel different if you knew me better?

Probably. I am very caring and loving person and I am very close to people but to someone I don't know it's at arms length.

Roles Reversed- Slightly Uncomfortable

(Comment during the approach) Slowly, I don't think I can walk that slow though, shuffle along.

Do you still feel uncomfortable at this distance?

Not really.

No?

I don't.

Can you describe what you were thinking or feeling just before you began to move towards me?

I don't know.

Just blank?

Basically yes.

You feel more comfortable when I or when you walk towards me?

When I walk towards you.

Why is that?

I don't know. I guess I have more control over when to stop. I don't know. Yes, I guess.

More control.

When I stop you.

Can you explain why you feel uncomfortable at this point?

Same as before, just personal space, right?

Were you thinking about your space or my space?

Mine, maybe both. I don't know. Mine probably. A bit selfish*(laughter)*.

No, that's okay At any time as you were walking towards me were you conscious about what I was thinking or only about what you were thinking.

A bit of both, I guess. Maybe about what you were thinking. Maybe, about, I was, Mhm.

Why?

(laughter) I don't know. I did. I am not a psychologist.

3. SUBJECT NO. B3 - FRANCOIS

Frontal Approach - Slightly Uncomfortable

(Laughingly) I am not evil, you can came close to me *(Kept his hand in his pocket and said)* Do you remember when you were a kid. The cool guy always kept his hand in his pocket (laughingly).

So don't be cool.

Okay, I won't be cool *(laughter).*

Can you tell me what you were thinking about or experiencing as I was walking toward you?

Well, I didn't want to make a mistake this time.

What mistake?

Umm, I made a mistake by letting you get too close *(laughter)* before I said anything.

Why do you think you made a mistake.

Ooh, I don't know.

You feel okay, you think you made a mistake because you felt bad or because you thought that I would feel bad.

You would feel bad.

But you, you felt okay.

Ooh yea.

You didn't make a mistake *(laughter).*

Ooh, okay *(laughter).*

So you were worried what I would be feeling.

Yea, I really you might not want get too close to me. You..whatever you call it. You like to be this far from people, I like to be this far from people.

Okay.

Laughter.

Okay.

You wouldn't be bothered about me coming next to you and touching you.

No.

So, you, as a matter of fact, did you feel uncomfortable whatsoever? Or not really.

I am not uncomfortable.

At all?

I felt that I would feel uncomfortable, that's how I felt *(laughter)*.

But you didn't.

No *(laughter)*. Am I supposed to be and say I am uncomfortable.

No, no, no, no! As honest an answer as possible.

Okay.

It makes us learn things about people, you know.

That's great.

Okay, so after you said stop you didn't feel any difference or did you feel any difference after I said stop, from.

When you touched my feet, toes, you got too close.

Okay.

Too close for arm movements. I like to talk with my arms. I don't talk with my arms all the time but sometimes when I like to say things. You know, I like when I leave enough arm movement space.

Were you actually worried that you might not be able to use your arms?

Well, I wasn't worried but I figured that; that this is my space, I like people who stop inside my space.

Okay.

And talk, but I don't want them to surround my space.

Like, you felt surrounded or invaded.

Yea, I felt invaded.

You did?

Yea, because you're too close.

What's your feeling, did you.

I wanted to talk with my arms and you were to close and I could touch your boob, and you could slap me or something like that and *(laughter)* that would be the end of that. I would be embarrassed for a week *(laughingly)*.

So you were actually worried what I would feel.

Yea.

Or were you worried what you felt.

I was worried about you.

About me.

Yes.

And if I wasn't, and if you didn't think about me, you would have, you, yourself felt very comfortable.

Ooh, I like it when people.

Are close.

Yes. I am afraid of what people think.

Why?

Well, that's the way I am *(laughter)*.

So, were you always like this or it less changed for you as a result of the accident?

I, I have always been like this but it's more severe now.

So, you felt your space because matter after the accident.

Well, no, it must have stayed the same. I never thought of my space before, now I do.

After the accident.

Yes, after the accident. I am conscious, conscious of everything that happens around me.

Okay, including your space.

Yea.

This, okay as I came to this space of yours, okay do you have a physical feeling or is it just in your head?

(Silence). The physical feeling's always in my head. It's always been in my head.

So you, what is this feeling, physically when I come too close to you.

(Silence).

What is it, can you describe it?

Well. I think you are pretty *(laughter).*

(laughter) Thank you.

(laughter).

You must be embarrassed *(laughter).*

No, I am not embarrassed I am flattered.

Okay, did you, did you wait for the right time to say stop.

I, I, I actually should have said stop sooner but I didn't say stop. Well, I should have.

It's only two miles but it may matter or something.

No, it's actually, it's okay, it's fine.

Can you, can you describe your feelings as, where, before I began to walk towards you?

I was wondering what was gonna happen.

Okay. So you were not familiar with what's happening and you were waiting for something to happen.

Yea.

Were you nervous, at all?

Uhm, I was anxious *(laughter).*

Anxious.

Yea. I wondered what's gonna happen, I wondered.

Okay, now try to remember as I was walking towards you. Is there anything that you thought about but didn't tell me?

(Long silence) Nothing and everything.

What does that mean?

(laughter) No, nothing. I better say nothing.

Well, don't... what you should think, just, just say what you thought? What you think.

(laughter).

Don't worry about what you thought and shouldn't have. It's OK.

No, I can't say it.

That you shouldn't.

Yea.

I, I don't think so, but it's up to you.

Uh, what I was thinking was nothing that we talked about.

You don't worry, that's okay.

Left Angle Approach - Slightly Uncomfortable

(Laughter, comments, "don't be cool").

Repeat

(Instructions) Don't think about what I think, think of what you think prior to approach.

(Silent laughter) I like people at arms length. So I can do that (stretched his left arm out and embraced someone that he imagined to stand next to him).

So is that it? Okay, can you describe what you were feeling or thinking just before you asked me to stop?

(laughter) I was thinking I want people within arms length, you know.

Within arms reach?

Yea, I like, I like everyone in arms reach. When you were walking like (pointed to frontal direction).

From the front?

Yea, it's harder. Arms reach, when I am not staring somebody in the face, arm reach.

So you like them closer from this spot than from the front?

Yes.

Why is that?

When, cause I like my arm around people.

Okay, so can you describe what you experienced just as you said stop?

(Silence). I keep worrying if that's too close for you. *(laughter)* Don't say stop, that's too close.

Too close for you?

Yea, when you say that I'd like to get closer. I want to say stop, but you say that I want you to get closer.

Okay, so you were thinking about what I.

Yes.

I might think.

Yea.

Okay so how would you describe what made you say stop.

(Long silence) When I described you're at arms reach. You know.

Did you estimate the distance in your mind, how far I was so was it a feeling that you have?

Well, I expected that with you, how close someone is to be so, I was I thought in my head I don't hear.

So, really it didn't, it didn't, it didn't really bother you okay?

This whole, this whole thing didn't bother me yet.

That's good.

Right. You were closer than arms length.

Can you describe what you were feeling or thinking just before you asked me to stop.

(Silence).

Just before you said stop.

I wasn't feeling or thinking anything. I was I was thinking of you, before being with me, I better say stop. That's what I was thinking.

So were you worried that I would actually touch you?

I don't know, I, I was afraid that you would be embarrassed about something, I don't know.

That I would be embarrassed?

I don't know.

But you wouldn't be bothered if I come?

I wouldn't be bothered.

Okay, did, did you feel any different when I was moving towards you from this point than from the other?

No.

Not at all.

I felt more comfortable.

From this side?

Yes, cause I'm right...

So, as I was walking from this side were you... that you're right....

Yea, I was thinking, you, its tough.

Why would it make a difference to you?

(Silence) When when, anybody's coming from my right hand. It's my sharing side *(laughter)*.

Right Angle Approach - Slightly Uncomfortable

(Comment during the approach) Don't worry about me.

Okay. Four and a half feet.

I should stand there. Do you feel that this is the point where to you should feet this is the point where it is acceptable to other people?

Well, yea. It's, it's a perfect distance to talk.

Uhm. And what would happen if I got closer than that?

(Long silence) I'd probably kiss you *(laughter)*.

Repeat

I like you there, cause I can put my arm around you. You are at right distance, whatever.

So it's still different for you from this role than from the front?

Yea.

Turned To The Right - Very Uncomfortable

(*Comment)* I will let you bump into me this time *(laughingly)*.

Was it right for you or you thought it was perfect for me?

I was perfect for me.

Perfect for you.

Turned Left - Slightly Uncomfortable

Okay, why was it perfect for you?

Well, I like close, I am looking for the words, uhm, I can't find the words *(laughter)*. I like Uhm close relationships with all people cause anyone has the potential of being my friend.

Okay.

So, I don't know.

You like people?

Yes.

Don't you?

Yes, *(laughter)*.

Frontal Approach - Very Uncomfortable

(Comment) Well, this is funny. I like you at arms length. I am not, I am not trying to be accurate.

You guess?

Yea. I guess.

Can you describe what you were feeling or thinking just before you asked me to stop?

I got you to smile *(laughter)*.

(laughter).

That's all, all I wanted to do *(laughter)*.

Did you, so you never thought of anything but that?

No. I was just looking at your mouth and thinking, smile, smile laughter).

Did you feel comfortable?

No, I felt very comfortable.

So, when I stopped and was standing at this spot in front of you did you feel uncomfortable?

No. I felt uncomfortable when you looked at your feet, how close you are but that's when I feel uncomfortable. I feel comfortable when you're standing there and look me in the eyes. You know *(laughter)*.

So, actually, why did you say stop?

Cause I knew you were gonna look at your feet *(laughter)*.

So, if I wasn't to look at my feet, you wouldn't stop me?

No, I, I would have stopped you at a comfortable distance.

Okay, so what is a comfortable distance?

Kissing *(laughter)*.

Roles Reversed

(Comment prior to the approach) I feel funny *(laughter)*.

Do you feel uncomfortable at this distance?

No.

No?

Do you prefer, you feel more comfortable when I walk towards you or when you walk towards me?

(Long silence) I don't care.

Doesn't make any difference?

No. I was nervous at first, when you started walking I felt okay.

What were you worried about?

I don't know, I didn't know what was going to happen.

4. CONTINUATION OF SUBJECT NO. B3 - FRANCOIS

Frontal Approach - Slightly Uncomfortable

Did you, actually when you said stop, did you feel uncomfortable at all?

No.

You didn't, so why did you stop me?

Okay. This time I'll learn and I won't stop you.

No, no, don't force yourself! When you, if you.

I stop you when I feel uncomfortable. Not that I don't feel comfortable. I feel comfortable with you standing there but I feel more comfortable with you standing there.

You mean you feel more comfortable when I stand closer, right?

Yes, yea.

Okay, so, just think about when you begin to feel uncomfortable, if you feel uncomfortable just stop me, okay?

Okay.

Did you feel uncomfortable at all?

See, I trust you. I now you're not going to hurt me at all. Why would feel afraid.

Okay. When we did this thing the first time, few days ago. Did I stopped you when I felt comfortable, when, I could talk face to face. I like talking face to face, so when you are standing face to face, I stopped you.

Okay. I didn't feel like come too close either.

Do you feel uncomfortable when I stand here, at this point?

Well, I don't feel comfortable, and I don't feel uncomfortable. I don't like talking at far distances so I prefer talking face to face.

Okay so, actually you feel better when I am closer to you than when I am here.

Right. Your talk to you just like I am now but you feel better when you're closer.

Left Angle Approach - Slightly Uncomfortable

(Comment during the approach) The problem is that I trust you. I know that you're not going hurt me. So I can let you step through me if I want to *(laughter)*.

Okay, sounds good. It's fair enough. Okay.

Two inches closer than last time.

Why is it closer this week than last week?

Because now I believe that I can, you know, I believe that you want to get as close as possible.

You think that I want to get as close as possible?

Well, yea, you've, you've, I'm leading you here.

Okay, why didn't you let me few days ago?

I didn't know you as well (laughs). I don't know you very well right now but I know you're not going hurt me now, so.

Like last week did you think I would hurt you?

Well, I didn't know if I would get up from this chair instead, or something like that *(laughter)*.

Okay, so.

It's just an evil fear, you know on the back of my mind.

Was it a fear of me or a fear of him. Fear of....

Fear of... Yea, I am never afraid of women.

You are never afraid of women?

No *(laughter)*.

Are you afraid of men?

Yea.

Okay.

Les - Left Approach - Slightly Uncomfortable

Okay, were you afraid of him this time or you weren't?

(Long silence). See, now I know... he is only an instructor and ... can understand why I am afraid of him and that's why I am getting closer.

Okay, sounds good.

Les - Frontal Approach - Slightly Uncomfortable

You're closer that time.

How do you know?

I don't know *(laughingly)*.

You think so?

Yea.

Okay, so you are not afraid of him now?

No, now, that we've been talking about it, I am not afraid of him.

(Les) I was wondering, what went through your mind or what were you feeling as I was coming closer.

I hope this is helping, that's all I was thinking.

That is helping me?

Yea.

Okay.

That's helping you for school work, right?

Umh.

So, this is easy that way when. Say, I couldn't do very well in schoolwork myself but somebody else must do their schoolwork. you know. I couldn't go further than grade 10 but you go to high school to get grade 10.

(Les) Mhum. Did you feel okay that I was coming closer?

Yea. I wasn't thinking about that.

(Les) You don't have to be scared you understand. We'll do what and, and you think she could tell you did?

Okay. Wow, I am afraid of Anita.

(Les) You're afraid of Anita?

Yea (laughingly).

(Les) Just don't be too scared okay? (laughter) Can you tell me what you were thinking when I was walking towards you?

Yea.

(Les) Can you tell me what you were thinking this time compared to other times?

Subject frowned.

(Les) What's the matter?

This time, I panic, panic *(laughingly)*. The back of my head was going, panic, panic. What's the matter, what's the matter.

(Les) This panic, panic, when did it start, when I started moving at first?

When you moved from this place, not there.

(Les) As soon as I stood here, you had that sensation?

Yea.

(Les) And did it get stronger and stronger as I got closer and closer to you?

Yea.

(Les) So is it very different than Anita, It kept getting kind of better and better and better when she got closer?

Yea.

(Les) And me, it got worse and worse and worse.

Right, well, so, that's the way I am about men and women *(laughter)*. Women can walk through me and I love it, you know, I love it. I loved it when she bumped into me, but a man it's gotta be arms length.

(Les) Uhm.

A woman's gotta be, like last week a woman had to be arms length this way, you know, I like to go around her, but a man's gotta be, you know respectable distance away.

Repeat With Les - Slight Uncomfortable

(Les) Did you notice you were more uncomfortable or just more.

More relaxed. I, I, I.

(Les) You did. So last time I actually came a little closer than you really wanted me to.

Yea.

(Les) Okay. Does this happen to you often when you're talking to other people, when they move too close to you and you don't stop them before they, they're too close. Does that happen quite often?

Yea.

(Les) And it's not only with us but that's with other people when you're just talking to people.

I am always trying to be close to somebody, like when you're my father. When woman couldn't be close enough but if he is my father and I trust him, and I know him for twenty three years, you know. With you, I don't know at all, I can't remember your name trust you Les, that's why I let you walk.

(Les) Okay.

Les - Head Left Side - Slightly Uncomfortable

(Les) You think that the sides are really different than the first, or they're both the same to you. They give the same sensation.

Uhm. I have to exaggerate the sensation on the sides.

(Les) You have to exaggerate?

Yea. O.K., panic, panic, you're supposed to panic. You're supposed to panic, okay, and there the same distance for panic now. *(laughter).*

(Les) So you literally tell yourself to panic.

Yea.

(Les) But at the front you don't have to.

No.

(Les) It comes automatically.

Yea, yea.

You know why? Why it's that.

Why.

(Les) She is asking. Do you know why? Do you know why?

Ooh, when, cause the front is for the kissing.

(Les) Okay,.

Okay? The side is, the side is, is, I am strong on the sides, I know I am.

(Les) Okay.

So I can defend myself on the roles *(laughter)*. So I am not scarred have to tell myself when it's time to be scared.

So you are more scared from the front?

Yea.

Than from the sides?

Yea, yea, from the front I have no defence. My heart is open, you know, my stomach is open, everything is open.

Right.

But on the sides nothing is open. My arms and my leg are there. You have to go through there before you hurt me. I know you're not gonna hurt me and I've been telling you this that you're not gonna hurt me but it's just, it's natural panic my not knowing you all along, a natural panic.

(Les) So you think you would make a difference if you told yourself - don't bother panicking. Just, just wait until the panic comes in the sense that the front you're waiting until the panic comes.

Right. When I was coming from the front you were waiting and waiting and waiting and waiting until all of a sudden you felt panic. It was there, you didn't have to tell yourself or exaggerate it, right?

Yea.

(Les) If I come from the side and if you do the same thing, you think it would make a difference?

Uhm.

(Les) When you don't have to tell yourself, panic panic You don't tell yourself to you just wait until you see if you do.

When it's a natural thing about panic, until it's time to panic.

(Les) It's time to panic even if you haven't panicked yet.

Yea, Yea.

Okay.

You said that on the sides you have your arms and your legs to protect you, right?

Yea.

(Les) So do you believe that there is two sides of you, that there is you which is inside of you and there is another part of you which is somehow not related to the real you?

Ooh yes, my arms and my legs are there to defend me and are part of me.

So, so, so in other words, you legs and your arms are not really you. It's only the inside that is you?

Well, it's all in my heart *(laughingly)*.

Okay.

I know it's my brain too but I feel like it's my heart.

Okay.

Like, I, I think with my heart I don't think with my head *(laughter)*.

So where is the real you? Real you is in your heart?

Yea *(laughter)*.

Right there?

Right.

Okay, Okay .

Repeat With Les

(Les) This time, did you have to tell yourself or did you find yourself, did you tell yourself, hey, let's go ahead, panic or did you say, or did you feel yourself already experiencing panic. Which way did it go this time?

Uhm. Like, I, I don't know if I can explain how my brain is working right now. But I am thinking it's man this time again, so let's *(laughter)* let's not get too close, close. I am not gay *(laughingly)*. So I panic with guys.

(Les) Okay.

I wonder, this feeling at discomfort that you have, it is, is it a sexual feeling?

Yea. See that's why I let you walk through me because you're women, I like you. You're man so I can only like you to a certain extent. I can like you as a friend but I cannot like you as that kind of a friend. See, I like. like her you know.

And, and you think.

She could tell me she is married to my brother or something like that. I'd still let her do this, you know. She could tell me she is married to my brother or something like that but I would still let her do this especially because she is woman. And.

Okay. So you think and it changes past for you in the sense that somebody's, uhm, in a sense that even if it was a strange lady walking up to you, would you feel very guilty that you would have no space for her, as long as she wasn't threatening, she wasn't going to hurt you. You just let her walk right up to you anyway, you would.

Yea, I would let her walk right up to me to the extent that I let her walk up to me last week.

And how far you think that was? Very close, or long ways away?

Two or three inches further away.

What about if there was a woman who was very old. She was 70 years old, your grandmother's age. Would you still let her come as close?

Yea.

Any woman?

Yea.

Any age?

Yea.

Regardless of how old?

See, I am not gonna make love to a woman that's my grandmother's age but I trust her. She is a a woman.

Okay.

She is the opposite of me, so I've gotta trust her. *(laughter)*.

Repeat - Very Uncomfortable

Did I come over the boundary or is that right?

Right.

It's right there?

Right.

When, when I was doing that what were you thinking about when I was approaching you?

After my accident I can actually not think about anything *(laughter)*. So I wasn't thinking about anything.

You were not thinking about anything.

When one is too close, is too close, so that's all I think, so when I was too close and all of a sudden you felt it was too close, and then you said it, that's all. Yea. I figured, it's close enough cause, like men, the distance I like between, from men is between arms distance, from there.

Uhm.

And women is there.

Elbows.

Elbows to your knuckles. Yea. My knuckles for men, my elbows for women, that's the way I am.

And was it that way before your accident too?

Uhm, *(silence)* I didn't get a chance to go and see very many people. I was also driving taxi so it was always the same distance, sitting in my car.

Uhm.

You know, men and women sitting in the same car and same distance.

How about your friends. You had some friends, right?

Yea.

With your friends, some were boys, and some were girls right? You remember them?

Yea, well, all the boys that were near me were just buddies you know. And all the girls that I would know were loving mates ***** Like I was making love to all of them. I feel embarrassed. Should I?

No? So for them you had no? no?

No, they can come right to me and I wouldn't mind.

You wouldn't mind.

No.

So you're actually, you, so if, for for females you didn't have any sensation?

No.

Before your accident?

No. The only woman that wasn't my lover, when, and she is my oldest sister, I consider, you know, because she has treated me so well over the years, like I think of her as my oldest sister.

Uhm.

And her boyfriend is the same distance *(laughter)*.

Uhm. Do you think your accident changed how you react to people's spatial, you think you react?

No, not very much.

No?

No

Right Side Approach - Very Uncomfortable

About the same as on the other side?

Yea.

Are you left or right handed?

Right handed ***** I cut my right hand.

Is that right? Where did you cut your hand?

Right there, 3 inches.

Wow.

I had 3 stitches.

And you feel you have no sensation in your right hand?

Before I did, Sensation was just tingles right there.

(Les) And you, and all of a sudden you hurt it.

Yea, yea, which is my right hand, and I know I am right handed but I can't remember which is my right hand.

(Les) Okay, I see.

It's such, I had a fight in Montreal. I was ten years old and I had to play with these other boys. They beat the pulp out of me.

(Les) Yea?

They were all, three or four years older than me.

(Les) Uhm.

That's good there, this distance.

(Les) It's good right here?

Uhm.

(Les) Good for what? Is that where you like to talk, is that?

Yea, yea.

(Les) So that's, any closer would be uncomfortable and if I lean forward and talk, this is too far and that's a little too close.

Yea.

(Les) So right here it's good.

Yea. Just perfect *(laughter)*. Ooh it was, yea.

(Les) Interesting.

Never happened before he? *(laughter)*.

As, as, as, as he was doing all these repeats right and time went by, did you feel more and more uncomfortable or did you feel better and better as time went by, or it, you didn't feel anything, any difference?

With you?

With him.

When I first tried from here, mean I tried from this side and that side and then several times. Ooh, I am starting to feel a little more comfortable with you you know. You've got potential of being a friend, so now I let you get closer but.

Repeat With Les

Do you feel as uncomfortable from the front here as you felt from the side?

No.

It's not better at the sides?.

Sure it's from the sides.

(Les) Or did you react faster and you feel it gets better when I get past some place around here an that's about right again?

We can talk, we can examine each other's facial expressions, okay?

It seems like pretty well defined.

Frontal Approach By Les - Slightly Uncomfortable

(Les) What were you thinking about this time when I was walking towards you?

I gotta let you get closer, I gotta let you get closer and then, when you got to that point I said no closer, no closer, so.

(Les) When you get that sensation or do you it really thinking in words or is it just, a, a sensation.

More an emotion, yea.

(Les) It's more an emotion than in words?

Yea.

(Les) It's just now, that's close enough?

Yea.

(Les) It's more a now, but it's not a word?

Yea.

It's just there.

That's it.

(Les) But you don't think it in words, it's just.

No. Not really thinking, I must, I have to keep trying, I must try to let you get closer I just put it in words.

(Les) You just put it in words even though it's just a sensation.

It's sensation.

(Les) It's interesting.

But if I was talking to you in a pub or something like that, I'd probably let you get closer to me if we were both drinking see *(laughter)* You know.

(Les) And it wouldn't bother you?

It wouldn't bother me because I was drinking beer probably but.

We could change the experiment and bring some beer in.

(laughter) Yea.

(Les) And things could be a lot different then. I don't think they'd let us do that.

Ooh, I am not allowed to drink anyway.

Repeat With Anita - Front Slightly Uncomfortable

(Les) Did you have the space or not, did you really, when you said that's pretty good did you really have the sensation that that was close enough?

She could have. I could have reached over and kissed her. I think that was just about right.

***(Les)** Okay, but there was no sensation that she was too close at all?*

No, no, just perfect distance. That's what I was supposed to tell you right? When she was at perfect distance.

***(Les)** Right. And what was the distance?*

It was about 10 cm.

***(Les)** No for.*

It was about 10 cm.

Laughter.

I think her toes touched my toes. Yea, right, yea.

***(Les)** But when she was walking toward you and you were thinking were you thinking like it was to me for it was really a sensation that you later put into words, or, was it, or were you thinking in a different way now, when Anita was coming.*

Yea, it's. I, I don't know, uhm, when if I am begotted towards men or not from begotted men or not but with women, I don't against, you know, know, you can always get so close. I, I meet a girl and two minutes later I start kissing her. I haven't kissed you yet but everyone's telling me how married you are and all that kind of stuff. It kinda scares me. *(laughter).* But I've kissed Barb. You know Barb? I've kissed her, she doesn't like it when I kiss her anymore but she lets me kiss her once in a while. She will walk to me and go like this. And she will know that I love her and I'll do this. I call Barb mom most of the time because she is the mom I've always wanted to have. *(laughter)* You know. She is the mom that's here, she is the mom that helps me.

***(Les)** Uhm So that, so that means that you can actually walk over to somebody, very, very close even if she is female, you you don't have to think sexually towards her. You're not thinking sexually towards Barb.*

No.

(Les) You think of her as your mother. Is that correct?

Yea.

(Les) And this is how it usually is, or it is?

Ooh, I never think sexually. Like, I don't even know if I can do it, anything sexually ever again so I don't think sexually anymore. I don't think sexually anymore, I just think, you know, like I'm always so upset, more so.

You said you wanted to kiss me. It wasn't a sexual thought just something.

Yea. Like I am not a sexual pervert or nothing like that. It's just you know. I am friendly, I'm, I'm generally friendly - by men too, but you recognize the distance how friendly I'm towards men. Men it's there women, it's more.

But even....

Probably because my mother and my sister or something like that, think of all women in the same way as my mother or my sister.

Uhm.

So, you know, I love them both, so I'll want to get closer. But my father, there's lots of perverts I've met that are men so I can't let them get as close as my father.

Uhm.

It's only weak moments when I do let my father get any, like I kiss my father on the cheek once in a while, he hates it but I do it anyway. It's only when I feel really close in my heart and that it feels like I've gotta get closer to him so I can grab him and kiss him and then when, for, for, for days and weeks I, I don't wanna to be there again.

Uhm.

But then all of sudden, I don't know what it is about this head of mine, I feel I've gotta get close to him.

Is that only since your accident or was that the same before.

Well, maybe before I never had to look at it in the same way.

Uhm.

But it was probably the same. It's just I never had to think about it before and now I have to think about it, examine and feel guilty about it *(laughingly)* But I'm pretty well known to feel guilty.

Why?

(Silence).

No reason? How, compared to after and before your accident,... How did you think about several things before the accident or after the accident. How you think about them changed? Did, does your whole way of thinking about men or women change or the role things, whatever?

Yea. All women are potential brides, she's already married so she's not a potential bride but she is potential bride anyway cause she is being a woman. So it's part of my head telling me she's a woman, she is potential.

Uhm Is it after the accident, that's how you felt?

No, no, uhm, yea, after the accident.

Before?

Before the accident I was a slut. Two or three girls in the day and *(laughter)*. So now everyone's smiling and looking at me *(laughter)*.

Okay.

(Les) We are just trying to comprehend and figure out what other questions we can ask you. (laughter).

Like I don't consider myself particularly good looking but a lot of people do consider me particularly good looking so I take advantage of them.

(Les) How?

I'll let them make love to me. *(laughter)*.

(Les) Is it after the accident or before?

Before. After the accident I've only made love once and it's been about a year and a half, almost two years.

(Les) Okay.

It's a lot less than four, five times a week *(laughter)*. Sometimes twice in a day. I feel guilty, I'm not supposed to feel guilty so.

(Les) Uhm I am interested in how you would express it if either Anita or I walk towards you. The way you would express it is that you're waiting for a sensation and only after the fact that you put it into words. It's only when we ask you a question that you try to put it in words.

Yea.

(Les) Okay. And is it the same for both Anita and I, I was walking toward you, you were just waiting for sensations.

Yea.

(Les) That's close enough, then it came and that was that was great.

Yea. I am ready to panic sometimes too as well.

(Les) Yes, that's okay.

I am not afraid of you.

(Les) But you describe it as a panic.

Yea.

(Les) Okay. Is it the same way with Anita. Did, are you... of waiting for the panic sense then the panic never comes? Or is it, it's just like waiting for a sensation but the only sensation is a good and positive sensation so you say, well, it's good and positive, keep coming, coming. Is that because she is married and everything, like that she is my wife and my little sister, so I let her get closer like my little sister.

Uhm. I kiss my little sister a lot too (laughter). So I heard. Uhm.

So if I wasn't married, you, you wouldn't let me get as close?

I probably would let you get as close because you're not married yet, like, *(laughter)*.

(Les) You think you'd like to get married someday?

Yea. Uhm. I'd like to start a family. Uhm. I don't know if I can or not. Uhm. Have you heard the news? I have MS now.

You told us lots.

Ooh, did I? I don't know if I can raise kids.

(Les) You must be taking medication.

Yea. If you've got MS, you have no cure for it at all. MS is the exact opposite of AIDS. AIDS is here and MS is there. They're exact opposites.

It's just that people just don't pay attention to MS?

Yea, people people are now panicking about AIDS. So when they find cure for AIDS, the exact opposite cure for AIDS will be the cure for MS. Well, people get MS only 1 in 10,000, so I consider that very few people. So most people don't consider it to be enough. M.S.

However when you have it there are some very long years of remission when you don't have any symptoms.

Yea. I had optic heanitis when I was thirteen years old. Uhm. And, uh, I was okay, right until now. So I was okay for 10 years before the doctors tells me that I've got MS now.

You may be okay always.

Yea, I might be okay for another 30 or 40 years. It's only to take life easy.

Yea.

Just take good care of yourself and enjoy. Enjoy life because you probably won't be around as everybody else, so you better enjoy yourself. You've gotta enjoy yourself that much more because you are not around as long, you better enjoy yourself that much more.

You might be surprised, you might be around longer than anyone else.

I hope so, I hope so.

One never knows, right?

Yea.

(Les) Do you think it would make any difference if Anita was walking up to you and then when other people were around, either other people here at NABIS or, or if you were around in public?

Yea.

(Les) Why would it make a difference?

(Long silence) I don't know if actually it would make much of a difference. It's only reason why I let her walk so close to me was because she wanted to walk. She wants walking. The wants walking until I told her to stop walking, so, I walk ***** But the men's got to be at arms distance *(laughter)*.

(Les) There are two ways she might want to walk. One way she might want to walk is because she is set up and experienced that says she has to. And the other may she might want to walk is because she really wants to get close to you.

Yea.

(Les) Can you, can you think of those as two separate things? A wanting to walk merely because of the experiment that says she is supposed to walk until you say stop, or wanting to walk because she wants to get close to you. I've, can you, are those different things for you?

No.

(Les) They're not.

Not very much. She has to walk towards me so I'll let her walk towards me.

(Les) I was wondering, when a woman walks towards you, you leave sort of control over distance with a woman. She makes the decision, right? For you? If, if you're, if a man walks towards you, you make the decision for him.

Yea, well.

(Les) Is that right?

I'll let woman as far or close as she wants to but I'll let a man keep his distance. The perfect distance for a man is one thing. passenger seat and one sitting in a driver's seat. That's perfect distance for a man. For a woman, she's sitting on my lap. *(laughter)*. I'll let my mother sit on my lap. I had my mother sit on my lap the last time I saw her. I told her how comfy I was. She started to leave me. *** Just sitting on my lap. She thought she was gonna beat me, instead of sitting on my lap. It didn't bother me at all. *(laughter)*.

(Les) Okay.

But her husband, he can't get any closer than verbal closeness. You know. He can only get close verbally. He can't get close physically at all. I don't.

(Les) What about children. Are you the same way?

Ooh, women and kids.

(Les) If it younger kid, he is just a little kid, he can walk right up to you?

Yea, yea. You gotta, you don't mind at all.

(Les) No. Now, how old, how big do they have to be before you start saying, oh, they're big enough?

Uhm, ten.

(Les) Ten? How big is a ten year old for you?

About there. Yea.

(Les) But it's only for boys? Or is it for girls as well?

Yea, kids are all, there is no boy kids and a girl kid. They're all kids *(laughter)*.

(Les) a 10 year old girl you would also keep at a distance?

Yea. Maybe one inch closer than a boy but.

(Les) So how old a girl has to be before you let her get as close as you let me?

(Long silence) Still a kid you're gonna think but eighteen. *(laughter)*.

(Les) Eighteen?

That's a legal age *(laughter)*. You're supposed to be mature at eighteen so I'll let you walk as close you want. *(laughter)*.

(Les) Just when they're supposed to be responsible for themselves?

Yea, yea. They're so responsible for themselves that they can walk right up to, yea? Yea, and you're not responsible for yourself at eighteen not now. Now when we're all over 18 we look back and think back. We didn't have our shit together until 21 at least right? *(laughter)* You didn't know what you were thinking until you were 21 and your mind and you were a and he was a man and in my opinion it's 25 *(laughter)*. *(laughter)* She isn't even 25 yet. I'm over 25.

You're over 25?

26 *(laughter)*. I was pretty stupid when I was 25.

Ooh.

I was pretty stupid when I was 21 And when I'll be 25 I'll say I was pretty stupid when I was 23. *(laughter)* I think that isn't you.

(Les) Do you think that females, girls, could understand that that's how you operate?

Yea.

(Les) You think they understand it?

They ask their heart and they understand it. The brain might have to figure it out but their heart says okay.

(Les) Uhm.

I, I don't want a young girl ***exposed to... you know.

(Les) Do, do you know of any other people who operate exactly the same way you do. Do any of your friends operate on a, the very same principles, the very same ideas. Are they, do you think... are other people here at NABS who operate exactly the same way you do? How about your friends? Do they, before your accident or after your accident. You.

Before my accident, there was couple of others I'd say, but they wouldn't use the same words because they weren't as smart as me. Uhm. But they'd be thinking the same way without... the same way. Uhm. Like I consider myself pretty intelligent (laughter). Uhm. You know and just lost 20% of my mind in my car accident and I still consider myself pretty intelligent (laughter).

(Les) Uhm. But did they, you thought they were operating exactly the same way.

Yea. They were operating the same way but they didn't know why they were operating the same way? Uhm. Now they figure I was **** apart from that because they were around the ladies. More popular than. me (laughter) anyway. Uhm. And. how popular I was and they're more popular than me, so. Uhm. What to do with it. (laughter).

(Les) Do you think, how about nowadays. think of any friends you have or people you know or even the relatives, do you think they work with the same idea nowadays.

(long silence) I don't know if there is anyone (long silence) *** try to operate the same way. There is a lot of people who try to operate the same way. Uhm. And the way I operate now is different because (laughter) before I was just *** now it's ** let's get married and have kids, buy a house, you know, buy a car, a house trailer (laughter). You know that's what I want. I want what every father ever wants for his kids.

(Les) Do you think that would change if you got married and had kids? Do you think it would stay the same.

I'd still want the same things.

(Les) Do you think that would bother you ** the trailer or the house?

No.

(Les) And the house do you think, can you respond to people spatially, how you respond to other females spatially, do you think. Do you think that would change. That says if you got married and have a wife, you think it would upset her?

Man I would think, you're just like my sister, no, you're just like my mother, no, you're just like my wife, you know, I love all three of them so, you know, I'll let get close to me. I've got potential love for every woman alive and that's, that's a little. I've got potential love for every woman alive and potential respect for every woman alive. You can love and respect the woman at the same time but, you know, I am not holding prejudistic view between love and respect but women, I can do both.

(Les) You know, talking to you, I don't have any notion that you have a brain injury, I don't know what you would see as having problems. You can express yourself very well, you come across as showing a lot of of confidence, you're very aware of social concerns. I, I have hard time trying to picture what it is that the brain injury gave you as problems. Do you think it's giving you problems.

I don't think Ooh, no, or something.

(Les) What kind of problems has it given you I, it hasn't given me any serious problems, I think it's given a lot more benefit than it has serious problems I don't have a notion.

I am afraid a lot.

(Les) You're afraid? Of what?

Of myself.

(Les) Of yourself? In what respect, what could you do to yourself?

Well, when I found out I had MS, so I was considering to kill myself. I would cry **** was worthily or not.

(Les) Well, I gather you decided not to, cause you're still here.

Yea, that's true for I am too much of a chicken because if I decide to kill myself I'm not gonna go to heaven. *(laughter)* Believe it or not, when I had my car accident, I want *** explained to me that I would wait 100 years before I saw God and was ready to die and all that, I'd rather wait 50 more years alive, you know (laughter) and then 50 years too, you know.

(Les) So do you have any problems at all?

At all?

(Les) After your accident, like reading, or writing?

Yea I, like because I've got M.S. I'm gonna have tough time writing on the same line all the time. I, I, I, I should write to make it more eligible, more eligible, I should write on this lines at the same time.

(Les) Okay.

But.

(Les) But that's from your MS, not from your brain injury.

My brain injury tells me I have to read alone. I used to read a book a day, now it'd take me about a week. Uhm.

(Les) But you still understand the books and you still have the same vocabulary, or.

I think so, I, I'm not sure I can understand.. the word is spelled but I understand what it means if somebody tells me what that word says.

(Les) I don't understand what you said. Can you give me examples, or.

If I can read the word, and you read the word for me, I'd know what it meant. If, I, I could probably make up the word, you know, make up, but you would have to say baloney, ooh, okay *(laughter)* I know what it is.

(Les) Is it the same in talking the instance somebody talks the word, you, you, understand like you always understood it.

Yea.

(Les) That's really the reading of it that's the problem.

Uhm I like her trying to learn something. My sister just graduated from nursing. Three years of nursing.

(Les) You don't like school?

Ooh. I hate school. I wanna learn, I want to go to school to learn something I wanna learn, you know? I, I, I took grade 10 and I passed it pretty good and got 79% in English and 85 in Math, the only reason I passed with flying colors was I wanted to be a social worker. On unions you have to have at least grade 10 to be a worker. So as soon as I got my grade 10 I was making 12 bucks an hour. I was only 17 years old or 16, 17 years old, but I was getting paid 12 bucks an hour. Ooh yea. I went to night school to get my grade 10. I quit school a long time ago. *(laughter)*. But I quit school for four, five months and before I started a night school.

Uhm. So you don't consider me nuts at all.

No, no.

No?

Absolutely not. There's nothing wrong with you.

(Les) In a sense, both Anita and I have a very open mind towards what people are trying to tell us. In a sense we're trying to listen to what you're trying to tell us. If I don't listen what you're trying to tell us and you can't do that if you believe the other person is nuts in your words or just behaving strangely, to really try to listen to someone you have to say, look there is someone out there who is trying to tell me something but I, I don't get that impression that there's a problem on your side. You're really trying to tell us things which to me is just great, I am sitting here, trying to learn from you.

Is likely the impression that I got from you after I first saw you come here. It's the impression I got and that's why I let you be so close.

(Les) You do strike me as being very intelligent. Do you find yourself, did you have that impression the last time we talked to you too, that.

Well, its sort of getting the impression. It's you know, 60, 40, seeing you the second time, 60, 40 the other way, 60, 40 the other way, so.

You're pretty normal, cool guy.

Pretty cool *(laughter)* My own opinions are the most important things in the world. Albert Einstein's smart but he is not as smart *(laughter)*. Like I am pretty conscious about that, that they.

You know I've got the impression that your friends also thought that for themselves that they themselves you know, would think that Albert Einstein was smart but not as smart as, as your friends were would think that themselves. Do you think they would think that way?

No, no.

They didn't?

They'd say that may but they wouldn't really.

You're still friends with them or not.

No, I've only one friend, she's 30 years old, she is a little bit chubby *(laughter)* a little bit chubby. She weighs 265 lbs. She's my only friend and I'm moving in with her. Just call her my roommate and all that again ***** 5 years **** my car accident, talked to her about it.

(Les) So you think that's the beginning of a family?

No, she's dating a guy. *** So she's not a family material (laughingly). She's like a sister, an older sister.

(Les) Uhm.

I've never had no older sister before not natural older sister.

(Les) Uhm.

I want to start my own NABIS, did I tell you that? I want to start my own NABS for kids like 16 years old, 17 years old, you know. Right up to 25. Because we're accused of thinking less accurately than we are thinking and, to start a NABS like that wouldn't only be for brain injured but for the blind, people with MS like me, you know, people with any difficulty at all so, we can all relate to each other.

(Les) Uhm. You know. You think that as soon as someone has a difficulty, then they start relating directly and honestly?

I think they can by they can do pretty good job. Some people. things as kinds for dishonesty or, or.

5. SUBJECT NO. B4 - DARWIN

Frontal Approach - Slightly Uncomfortable

Can you tell me what you thinking or experiencing as I was walking towards you?

(Long silence) Nothing as you were moving.

Nothing, you didn't.

Balance, what balance part. I was straying. I don't know. It's like a magnet. One pushes the other. Like two magnets.

Do I understand correctly, you felt like moving back?

Well, I just, yes. Was my feet so closer together. Just feels like I am going back.

Can you describe what you were feeling just as you started to stay stop?

You have become enlarged. How to put it, something comes up close to.

You begin to notice more?

Well, I notice more, plus, just uhm doubles in size.

Okay, as I was noticing ad getting closer to you, did you feel that you were looking at me in a different way, than, say when I was far away?

No.

Okay. Can you describe what you were feeling after you said stop?

Nothing *(laughter)*. Just, like I say, your face was, uhm, when magnified.

So you were feeling that generally nothing has changed about when you felt?

No.

So, how would you describe what actually made you say stop?

(laughter). I don't know.

As you said stop, why did you say stop? Were you, when you actually said stop were you concerned of it or concerned about what I would think?

No, I don't, seemed like you were a lot closer than you actually were, when you've actually stopped. And asked me for the distance. When I look at your nose then I see the distance.

Okay.

(Laughter)

Did you, did you wait for the right time to say stop?

What do you mean by the right time?

Ooh, say, I started to walk towards you. Were you waiting for a certain time that you knew you would say stop?

No.

No. You just said it when you felt it?

When I felt it, yes.

What did you feel?

Closeness.

Was it a physical feeling or was it an intellectual process?

Probably physical.

Physical? Okay, did it come from outside or from inside?

Probably from outside.

From outside? Okay.

So can you tell me why you feel uncomfortable when I get to that point?

Well, I guess cause your face magnifies so much it seems like it's a lot closer.

Okay.

If I look you in the eyes, you look closer than you actually are. When I look at your nose then everything goes apart now.

Okay.

(Laughter)

Okay, did you have any feelings before I began to move towards you? What were you thinking then?

For what? When you walk towards me.

Okay. Now try to remember as I was moving towards you. Is there anything else that you thought about but didn't tell me?

About how close you would actually get.

Was it, were, were you, why did you think about that?

When to say stop.

Okay

Left Angle Approach - Slightly Uncomfortable

Comment prior to the approach (laughter) When you get that close, I feel like you're gonna push.

You feel like I'm gonna push you?

No.

Repeat

Can you describe what you were feeling or thinking just before you asked me to stop?

Again, just that you were gonna walk over me.

Uhm. Did you, did you feel that you could allow me to get any closer than that? Did you, would you be able to let me get closer than that? Or this was the point. Where?

Ooh probably when someone gets up that close, I, I just feel bad.

Would you be willing to let me get closer than that?

Uhm.

You were, okay. What, what did you experience just as you said stop?

Like I was just swaying back.

So as I stopped and was standing in that position did you still feel uncomfortable about me at that, in that spot?

Umm, No, not uncomfortable.

So, why, what was it that made you say stop?

You, I guess. I was just, I feel like I am swaying.

Backwards?

Backwards.

Right Side Approach - Slightly Uncomfortable

What were you thinking or feeling just before you asked me to stop?

Nothing,

Just the moment before you said stop, did anything in particular go through your mind? What triggered your decision to say stop?

No, I can't.

Was it a physical feeling or sensation, or mental process? What do you think?

Probably mental, I don't know.

Were you concerned about what I would think or were you focusing on what you felt?

I just thought about in your head. Your head was right there.

So it became so visible to you?

Yes.

And it's not, it's not a normal thing in everyday situations with people so close?

No. I don't think so.

I am wondering, in everyday situations when you are around people, right? You let one other close to people or you rather keep them away?

I like my space.

How big do you think is your space?

Well, I have been home alone for the whole year and I've got to run the whole house and three kids, I just, I like them away from me.

Because they make noise?

That's right *(laughter)*.

I know all about that. Did you feel any difference when I was moving towards you from this side than from the other?

When. I could see you better this way, that's because I can turn my neck.

There. So you feel more comfortable?

This way (right).

Right Side Approach - Slightly Uncomfortable

Do you think that you would be willing to let me get closer than that?

Yes.

You would?

Sure.

So, did you actually feel uncomfortable at all?

No.

So it wasn't actually the feeling of discomfort. So what was it, why did you say stop?

Your face was entering my space.

So it was my face you were focusing on?

Yea.

Okay.

What was in your eyes.

I am wondering, it just came to my mind. Do you feel that you have different space around your head than around the other parts of your body?

Yes.

You do? In what way?

When, there is something that's hanging from the ceiling. I see something pass by, I am very, I duck, move away. I don't, I stay away from overheads.

Okay.

When kids throw a ball, it can hit me in the body. I don't care but I am very self conscious over my head.

Did it happen to you after the accident or was it always like this?

No, it was in fact in the last three years. I just, uhm, I am walking around the shopping centre where they've got decorations hanging. One on the side, others on the other side. I'll make a point of walking in the middle. I'll walk around it, uh.

Is it because you're not sure how high above they are?

Yes.

Can you estimate distance as well vertically?

I can but if they're moving, I am afraid it can hurt me. I'll, I'll just walk away.

So was it the same kind of feeling when I came close and my head was close to yours? You had this feeling?

In a way.

Okay.

Yea. It's hard to explain, uhm.

I am wondering do you feel more comfortable around people who are much shorter than you say, than somebody whose top of the head is around you more or your chin or the tallness of the person doesn't move any difference?

I don't think so. It doesn't make any difference. It's quick moves, anything I see within my vision. If it's coming towards my head, I *(laughter)*. That's abnormal. I, somebody's throwing an orange at you for instance, throw it down here, there's no problem. I can judge it, but around my head, if it's thrown around my head, I'll step aside. I don't care.

So you feel, your space around your head is bigger than around your body?

Smaller.

Smaller or bigger? You are more protective about your head?

Yes.

So it would be bigger?

Bigger, okay.

Frontal Approach - Very Uncomfortable

What were you feeling just before you asked me to stop?

Like you're getting into my space.

Did you become aware of having a space?

It's just like I've got a space around me, that's it.

This space is just around your head or you feel it all around you.

It's around my head.

Body, you can do what you want with the body?

It's this part that I'm worried about.

Worried about, so did you feel you had to protect your head? Did you feel threatened by me, or what was it you felt about me that made you say stop?

It's just close enough. I can't explain. It's just like spread panel.

Okay. How did you feel just before you stopped me, just before that?

I don't know what to answer. I wasn't really feeling anything before stop.

And just as you said stop, did you feel anything different?

I guess, relief.

Relief? Why?

Well, I, you stopped there.

So you actually felt better with me at that point?

Yea.

Reverse Roles

Okay, can you, I've actually asked you, when you stopped did you still feel uncomfortable at this point?

I felt comfortable cause I designated the difference.

Did you, did you prefer, do you feel more comfortable when I walk towards you or when you walk towards me?

When I walk towards you.

Is that because of what?

I can, I can stop when I want to.

Okay.

Uh.

Is it a question of control?

Control, uh, something coming towards me or me going. I am more comfortable when I'm going towards you or an object, than you or an object coming too close to me.

Okay. Uhm. Why were you, what did you, why did you feel uncomfortable at this point? Why did you stop? Why didn't you make one more step, or.

I don't know. Just that's as far as I wanted to go.

Was it, was it still a space around your head or was it around your body?

Around here (*points to his head).*

Around your head.

6. SUBJECT NO. B5 - RICK

Frontal Approach - Slightly Uncomfortable

Can you tell me or try to tell me anyway what you were thinking about or experiencing as I was walking towards you?

You are a good looking girl.

Thank you. *(laughter)* Is there anything else that went through your mind?

No. Just that you are a good looking girl, that's all.

Okay, were you feeling, uhm, just as you started to say stop?

What were I feeling, thinking, when I said stop?

No, what were you feeling or thinking just as you said stop?

Ooh okay, I don't know.

What were you thinking or feeling, don't move?

Ooh, okay.

What were you thinking just as you said stop?

(Long silence) I don't know.

Nothing, nothing went through?

No.

Uhm, can you describe what you were feeling after you said stop?

(Long silence) I don't know what I feel about you. I didn't feel anything.

Okay, right after you said stop, did you feel any difference? Say from the time that I was walking towards you?

No, I don't think so, except that I think you are a good looking girl. Young, good looking girl, that's all.

Okay, thank you.

And she blushes too, doesn't she? Hey, hey, you are blushing now. *(laughter)*

I can't help that.

(Laughter)

Can, can you describe what made you say stop?

(Long silence) Well, I just thought you are close enough as I wanted you at arms length.

Okay.

So you don't get too close.

Okay, but what was it that made you say stop? Did you feel anything that made you say it?

No, No, No, I just don't like when you're getting too close. I can't stand it.

You like people further away?

I just can't stand people right beside me. It feels terrible, you know.

Was it, is that, were you always like that?

No, well, yes, I think so.

Or after your accident?

No, heart attack, that was long ago.

So after your heart attack it became like that?

Before I was like that. Before I had my heart attack I was like that *****

Mhm

Are you listening what I am saying? No, I am saying, I don't think it's changed any as I was sick. I just feel, I don't like people very close to me.

Why is that?

(Laughingly) I don't know.

Okay, wh, when people are too close to you, okay? What do you feel at that moment?

I don't think, I couldn't care less.

But okay, say you are in a situation where people are really close to you and you don't feel very good, right?

Yes.

What is it, that makes you feel bad?

(Laughingly) I couldn't tell you. I just, just don't feel good. I don't feel comfortable, lets put it that way. When people are too close too me.

Do you feel any physical discomfort?

No, no.

Or is it all here? (experimenter points to her head)

It's all in my head.

Okay, did you come from a big family?

No, no, two brothers and one sister, no two brothers, three brothers, myself and two other brothers, that's all.

Mhm. Did you have separate rooms?

Yes, in Victoria, we lived in Victoria, my father had big house so we all had our own bedrooms.

Okay, can you, can you tell me why you feel uncomfortable when I get this close?

No, I can't tell you why.

Ooh, you just feel?

That's right.

Okay, can you describe your feelings before I began to walk towards you?

No, I didn't know what you were gonna do, that's all.

Were you nervous?

A little, I wanted to know how far you were gonna go. *(laughter)*

As far as you let me, right?

Yea, that's right, well. *(laughter)*

Okay, now try to remember as I was walking towards you, is there anything else that you thought about but you didn't tell me?

(Long silence) Well, that's all.

Anything else that that, you were thinking about but you never told me yet?

No.

Anything else?

No, I don't think so.

(Leslie's comment after the approach from the left) I would like to try something Dick. When she was walking towards you, could you feel that she was getting closer?

Ooh yea.

You could feel that she was getting closer?

Ooh yea, no problems there.

Approach From The Left - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

(Long silence) That's hard to say. Trying to think what you are doing, what's all about. I am trying to help you.

Okay.

It's cool, you know, you're a university student. Must be nice ***** There aren't very many like you*****

Did you feel any discomfort as I was getting closer to you?

(Long silence) Well, no, not really (laughingly). I didn't want you to get any closer.

What, what do you think would happen if I got closer than that?

Well, I would be nervous (laughter, pause), no, just no, just nothing.

You just felt good at this particular distance?

Yea, that's right.

Okay, as I was walking towards you and I stopped okay? Did you feel that, did you have a sense of any kind of boundary around you that I just approached?

No, no, not really.

But did you get progressively more uncomfortable as I

Yea.

I was

The closer you got.

The more uncomfortable?

Yes, I

Okay, so you didn't want me any closer than that?

Well, I don't think so.

Okay, but what did you experience just as you said stop?

I knew you were gonna stop. That's all. I didn't want you to go any further, any closer.

Uhm, as you said stop, okay? Did you feel any difference that during the time as I was walking, was your feeling any different?

Well, no. I have a problem what you want to get at, you see.

No, no, no, no, okay, I was walking towards you and you said stop and I stopped.

Yea.

The moment that I stopped, did you feel any different than when I was walking towards you?

No, no.

The same?

No, no, same, yea.

Okay, as I stopped and I was standing by you, did you still feel uncomfortable at this distance?

No, not here.

Not here. Okay, uhm, could you describe what made you say stop?

(laughter) Where you're getting these questions from? There are getting harder and harder and she is smiling like a gypsy cat and

They are not getting harder than that?

No, no, I can't help you sweetie. I'd like to help you but I can't.

That's okay.

Right Side Approach - Slightly Uncomfortable

Can you describe what you were thinking or feeling just before you asked me to stop?

No.

Okay?

Nothing.

All right?

No difference sweetie, left or right. Makes no difference.

So when I was walking towards you from this side and from the other, it didn't make any difference?

No.

Not at all?

No.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

(*Long silence)* No, no special feelings.

Did you, so wh, why didn't you let me get any closer than that?

Well, that's all right question, isn't it? I don't know the answer. The question is hard Well, I just didn't want you to get too close.

This feeling, it came from inside or it came from outside?

No, from inside, I guess. Didn't want you to get closer, that's all.

Okay, uhm, what did you think or feel just before you decided to stop me?

No, not really. I just wanted you to stop, that's all.

Okay, is there anything else that you could tell me about what you experienced just as you said stop?

I don't know, I just didn't want you to get too close. I can't stand anybody too close to me.

Okay, and as, as you said stop and I stopped, did you feel any different than just before you said it?

No, I don't think so.

So you didn't feel uncomfortable at this distance?

No, no, I felt safe.

Why?

Because, as I said to you.

You felt safe?

Yea, safer, that's all.

Safer?

I guess I don't allow girls to come too close to me*****

Okay, if I was a man, would it be any different?

No.

Would you let me come closer if I was a man?

No, no!

No?

Further.

Further?

Yea, further away.

Why?

I don't know. That's the way I am. I don't want people, anybody too close.

Roles Switched - Slightly Uncomfortable

Are you still feeling uncomfortable at this distance?

Safe, let's put it that way.

Safe?

Yea.

Okay, do you feel more comfortable when I walk towards you or when you walk towards me?

Doesn't make any difference.

Okay, what were you thinking or feeling just before you you began to walk towards me?

(Long silence) Nothing really.

Nothing special?

Just keep looking how good looking you are. Young ladies, I've never seen such good young ladies look after me. I can't believe it.

Okay, what were you thinking or feeling just before you decided to stop me?

(laughter) You make me blush.

Why?

I don't know, I can't say why. I don't know why.

I see.

Uncomfortable, uncomfortable, that's all.

And are you still uncomfortable? Right now?

No.

Why? You don't know why?

No.

(Leslie's comment) Rick, do you think you are closer or further away now than when Anita was walking up towards you, or about the same?

Further away from me.

7. SUBJECT NO. B6 - SARAH

Frontal Approach - Slightly Uncomfortable

(Comment during the approach) I am not uncomfortable about you at all.

Okay.

(Repeat)

I am wondering why you felt uncomfortable now and you didn't feel uncomfortable before that?

If I don't know somebody, I would be uncomfortable.

Because I know you already, so that makes me feel comfortable.

(Repeat)

Ooh it's different, you see. I don't know how to explain it. Like you are somebody I already know, so I would feel okay when you get close to me. Whereas someone I didn't know, I'd want him at arms reach, half arms reach, or something. You know what I mean?

Okay, do you like people close to you or do you like them quite far?

Aah, I like them close. Doesn't matter to me, like my kids, I like them close. If I know them, people I, uhm, know, friends, they can sit close to me. Doesn't matter. People I don't know, Well, if there's a lot of space, they shouldn't sit too close, but if there isn't that much space, they can sit closer, doesn't bother me.

(Repeat)

Can you tell me what you were thinking about or experiencing as I was walking towards you

You remind me very much of a German lady I know.

You like her?

Very much. She is a hairdresser, she's going to school with my daughter. She is also blond. I think that you are German and you are blond, and that reminds me of her.

Okay, what were you feeling just as you started to say stop? What was it?

That I should say stop.

Why?

Ooh, I don't think that, uhm, women should be too close together. I don't think that's good idea. I think, I think when I said stop, it was a good time.

Mhm, if I was a man in the same situation would you feel any different?

It all depends on how I felt about him. If I liked him, I would be closer. If I didn't, I'd stop sooner.

But you feel that this distance is appropriate for women?

Or men. It all depends on men, I should be honest. *(laughter)*

Okay, what were you feeling just after you said stop?

That it is the right time****

For what?

To say stop when I did.

What would happen, you think, if I came closer than that?

I think you're just ****. *(laughter)* But I know you 're trying to do something else, so I think when I, when I said stop, was a good time to say stop.

Did you have any feeling? Did you feel uncomfortable as I stopped at this distance?

When someone's coming up to me in the middle of the road, walking down the side walk and they walk close to you, at arms length and I don't know them, I don't want them.

Okay, so what, how would you describe what was it that made you say stop?

I think that mostly everybody, women that walk into, by each other, or to each other, I think it's usually ****arms length, they stop.

So would you say something that you have learned, a learned behaviour?. Did you learn to be at that distance from people, or is it something that you feel?

It's something I feel now ****. I don't know for sure, but that's how I feel.

Does this feeling come from inside or from outside?

Inside.

Did you wait for the right time to say stop?

No.

So what was it that actually triggered you to say it. How did you know that the right time has come?

Normally when people walk past you, uhm, uhm, on a sidewalk or in a restaurant or something, or in someplace, they are usually about a yard or an arms length away. Which is okay with me. I don't mind that. If I got somebody who is stranger too close, that all depends on their actions too, you know.

You mean how friendly people are?

Like with my daughter, or my kids, they come close to me, give me a kiss on a cheek, that's different. I wouldn't want a stranger too close.

Can you tell me why you feel uncomfortable when I get this close?

When you are close like this.

Yea, why you feel uncomfortable?

Because you are more than arms length away. You are closer than arms length away.

Can you describe your feelings before I began to walk towards you?

Before you began to walk towards me, I think that you are a very nice person. I think you're going to school and you learn and I think everybody should be taught to try.

That's true, so now try to remember as I was walking towards you. Is there anything else that went through your mind but you didn't tell me?

Uhm, uhm, that there is another child that I know who is trying to go to school and he can't work. And when I go to court and get the money, I will help him, that's all ****.

Left Side Approach -Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

I was walking by somebody on a sidewalk. **** shoulders. They walk very close on a sidewalk okay? So I don't bother if they walk towards me this way. Right towards me, that would bother me more than from the side.

Than from, from the side?

From the side.

Why is that?

Uhm, because usually when you walk in front of the person you jump in front his face, usually you move to the side.

Uhm, that's why Can you describe what you experienced just as you said stop?

That's I figure what you ****when you are in a public place.

So you were imagining I was walking past you in a public place?

Mhm, in a restaurant or.

How would you describe what made you say stop?

It was right time that I should say it.

How did you know it was the time to say it?

Life, I guess, it's life ****.

So you feel you've been raised to be at this distance?

I would say that it's normal that you don't want somebody too close you, and it's natural to walk by people when you're walking up on the street or in a restaurant, or something. It's not, don't hang to your arm.

Right Side Approach - Slightly Uncomfortable

(The subject said that her right eye was "bad" and she could not see the experimenter too well while having her had turned to the right.)

Can you describe what you were thinking or feeling just before you asked me to stop?

Definitely, I felt you were getting a cold in your nose.

Did you feel anything about me walking?

No.

Did you feel any different when I was moving towards you from this side than from the other side?

No.

There was no recording of any latter approaches

8. SUBJECT NO. B7 - ARDIS

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

How close she's gonna come *(laughter)* I was just thinking how, I would like normal people to be away from me.

And did you feel that I got closer than that or about the same distance as you normally let people get.

Normal, like what I like, I want people far away.

What, what do you think would happen if I got closer than that?

Nothing .

Do you think you would feel worse if I got closer.

No.

So why did you stop me at this point?

Because that's comfortable, like that distance is comfortable for me.

Does it mean that if I got closer than that you would get uncomfortable.

No, that's what I normally like people being away from me, so.

Okay.

Like a little distance.

Okay, can you tell me what were you feeling just as you started to say stop?

Uhm, well *(laughter)*, I was just thinking, like how how close is she gonna get, or.

Okay and uhm, what happened in your mind when you said stop?

Well, I thought that maybe that would be like as long if you were ways away from me. It would be best for me because then I would feel comfortable with that.

Were you at all concerned about what I was thinking or were concerned about what you were thinking.

About me.

So how would you describe what made you say stop?

Well, my instinct, like of how close I like people to be, or.

Okay, why do you think you like people to be this distance from you, and not closer or further?

(Long silence) Why? Ooh, we can talk still. I don't mind people being too close to me. Like if they are too far away, or something and there are other people around, I think, well, why is she standing so far away.

Okay, you are in a group of people and you are talking to someone a particular person, okay? Do you, would you like that person to be closer to you than when you were in a room with no other people around, or it makes no difference?

Makes no difference.

Are you sure?

Yea, I don't mind people standing like right beside me and talking to me.

Okay, and this instinct that you have, you know where it came from?

No.

You just have it.

Yea.

Okay, did you wait for the right time to say stop, as I was walking?

(Long silence) Yea, I think I did.

So how did you know that the right time has come?

Because if people get too, too close, then I don't like it much, but if they're a distance away, you can talk, have conversation with them or something.

Okay, did you feel anything different when this time has come?

No.

You just knew it.

Yea.

Okay, so can you tell me why you feel uncomfortable when I get this close?

Well, I don't feel bad now.

Not now but, say, when I was standing in this spot *(experimenter positioned herself two feet from the subject).*

Yea, that's pretty close, like.

So why do you feel uncomfortable at this distance?

I don't feel uncomfortable if there is lots of people around, and they have to be that close to me. But if there's no one else around and they're.

Okay, so how would you describe what made you say stop?

Uhm, well, my instinct like, uhm, of how close I like people to be, or further than that? We can talk still.

Okay, but.

I don't mind people being too close to me like, if they're too far or something and there is other people around , then I think well, why is she standing so far away?

Okay, so in other words if you are in a group of people, there are many people around you, you like people to be closer to you than you like them to be when you are. You like people to be further from you than when you are alone with them. This instinct that you have about people being too close to you, is it a physical thing, you feel it physically or is it in your head? Is it a thought?

Could be all in my head.

But you are not sure.

No.

Left Side Approach - Slightly Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

How far is, no, I was thinking (pause), when I would actually tell you to stop.

So how did you know that the right time has come to stop me?

You were about a foot away, foot and a half when you.

Did you have any special feeling about that?

No.

So it was, was it just the estimation of the distance?

Yea.

Were you trying to estimate the distance between us as I was getting closer?

Yea, yea.

Why?

Well, it's only right that a person should be about a yard, half a yard away.

Who said it was right?

No one, but I said to myself that that's how I felt.

Did you feel anything different?

No.

You just knew it.

Yea.

Okay, so can you tell me why you feel uncomfortable when I get this close?

(Long silence) Well, I don't feel bad now.

Not now, but say, when I was standing close, about that far from you *(researcher walked up to subject and stopped about one foot away from her).*

Yea, that's pretty close.

So why you feel uncomfortable at this distance?

I don't feel uncomfortable when there is lots of people around and they have to be that close to me, but when there is no one else around and they're right close, watching every move that I make, then it bothers me.

Okay, okay, so can you describe your feelings before I began to walk towards you?

No, I can't.

Okay, is there anything else that went through your mind as I was walking towards you but you didn't tell me about.

No.

Why?

Well *(laughingly),* it's only right that a person should be about a yard, half a yard from me.

Who said it was right?

No one, but I said to myself that that's what I felt.

Was right.

Mhm.

Okay, what, can you describe what you experienced just as you said stop?

No, I can't.

You can't.

Well, well, I was feeling how far away should I tell her to stop.

Okay, but then you said stop and I stopped, did anything happen to you, did you feel anything?

No.

As you said stop and I stopped and was standing at this distance, did you still feel slightly uncomfortable?

No.

But before I stopped you were feeling slightly uncomfortable?

No, I was just starting to feel uncomfortable.

But as I stopped, did you?

Well, no, cause then you didn't come too close to me and it didn't feel too uncomfortable, or.

Okay, how would you describe what made you say stop?

(Long silence, laughter) I am not quite sure.

Right Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

Well, I was thinking when it would be time to stop because this side, I can't, I really don't like to get someone too very close to that side.

Why is that?

Cause this side is the side that was paralyzed. It just feels numb. Doesn't feel at ease as the other side.

Do you feel that you are protecting this side? That something might happen to you?

Yea, yea.

Do you see equally well with your both eyes?

Mhm, mhm.

This bad feeling that you have, is it, you have a physical feeling or is it in your head? Or you physically feel something that's not right?

Well, I kinda feel something that is not right, cause my, it all comes back, this side goes numb or something.

Okay, and it's only this side.

Yea .

So it all happened right after your accident that you became so concerned?

Edgy, like driving a car somewhere. This side is closest to the door and if, well, if my mother is driving, whenever she got too close to the ditch, the edge of the road, this side just **** Because I don't really, if someone gets a little too close to this side, my body gets.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

(Long silence) I was feeling like, when should I tell her to stop. When do I feel edgy .

So you felt edgy suddenly.

Yea, I feel, that's close enough.

Okay, how about your feelings just before you decided to stop me?

(*Long silence*) I felt how far I should let her come towards me.

And what did base your decision on?

How many inches.

As I was walking towards you and I was getting closer, did you try to estimate the distance in terms of inches or centimeters.

Yea.

Why?

I don't know.

So did you rely more on your feeling or did you rely more on your thoughts, how far I was from you?

What I was.

Okay, can you tell me anything further about what you experienced just as you said stop?

No, I can't. *(Long silence)* I felt how far should I let her come towards me?

Do you feel that you are protecting this side? Are you afraid that something might happen to you.

Yea.

Okay, are you left handed or right handed?

Right.

And do you see equally well with your both eyes?

Uhm.

So it happened right after your accident that you became so concerned?

Edgy about this side, like if you're driving a car and this side is closest to the door, say my mother is driving whenever she goes too close to the ditch, to the edge of the road, this side just goes numb.

Really?

Yea, because I don't, I don't really. If someone gets too close to this side, my, my I don't feel.

You don't feel right.

No, I don't feel comfortable.

I was walking towards you from this side, from your right side, you didn't feel as good as when I was walking from your left side, right? When I asked you to turn this direction, this direction, you still feel equally uncomfortable as I was walking from this direction.

Yea.

Did you have the same kind of feeling?

A little bit, yea, a little bit worse .

So actually it was worse when you turned.

Yea, like if I turned to this side, you walked up to me. Then, I, like it bothers me, cause you can't really, like, this time, seems to know that, the main feeling is too close, and just feel like moving away.

Okay, but did you feel as bad as when I was walking from that side?

No, because then I was standing forward, right?

No, you were standing as you are standing, and I was walking like that (experimenter demonstrated), and you felt quite bad.

No, quite a bit bad, cause then I can't really see what is coming towards me, but it is like, eye contact, where I'm looking, then I kinda feel different. It's all in my head.

Right Side Approach - Slightly Uncomfortable

(Les's comment) Did you get your sensation?

No, not really.

(Les) No real sensation?

No, if it's not too big, like that.

Repeat

(Subject reported that the feeling of numbness has gone).

(Les) Do you find it getting easier or harder?

Easier, yea, cause I know that she's not gonna hurt me. I like her. I wasn't really scared at first anyway because it's not other people that really bother me. Things like you're driving a car or something, and getting too close to the ditch and think, maybe we could crash or something. Then I feel worse, but.

Mhm, actually you were standing like you are standing and than I was walking like that, okay? So you felt quite bad.

No, not quite as bad because than I can really see what's coming towards me, but if it's like an eye contact where I am looking than it kind of feels different.

Repeat of the Approach From The Left - Slightly Uncomfortable

(Les) Did you get the sensation of numbness at all?

No, not on this side.

Next, the subject described her accident where her boyfriend who was "out of it, or something" hit a stationary school bus while attempting to pass it. Ardis was thrown out through the windshield and suffered a severe brain injury. She cannot remember which side of her head was hit. She also said that her recollection of her past prior to the accident is very fragmentary and that she remembers very little of her life prior to the accident.

(Les) When you feel numb is it a thought that you have, or is it something you feel in your arm?

No, this whole right side goes funny when, it's a feeling in there that I can't handle it, I can still move my arm, but it's just, feels really funny. If I see that we're getting a little too close to something on the side, then it goes. I've had a lot of therapy, so you're really conscious how you can move your hand, how strong you really are, whatever.

The subject then provided a lengthy description of her physical condition and the types of therapy that she had to go through after the accident.

Roles Switched - Slightly Uncomfortable

You still feel uncomfortable at this moment?

I don't really feel uncomfortable, but

So why did you stop?

(Laughter) Because I didn't want to make you feel too Uncomfortable

So you were worried what I would be thinking.

Yea.

You feel more comfortable when I walk towards you or when you walk towards me?

It doesn't matter.

What were you feeling just before you began to walk towards me?

Well, I was figuring, like how far should I be away from you to have a nice conversation. But that's when I came up to you I was a little too close for a nice conversation, about this far apart would be good (subject walked up to the experimenter and stopped at three feet).

(Les) Do you have problems with remembering things?

Sometimes. Well, I am getting better now but before I couldn't remember nothing like, if something happened just a day ago, I wouldn't remember.

The subject further commented that her memory was getting better, but she still must use a memory book.

What were you feeling just before you decided to stop.

I was wondering where should I stop, or what.

So why did you?

I don't know. I just have.

You just mentioned that you were, uhm, kind of worried about what I would be thinking. But before, when you were standing here, and I was walking towards you, were you still concerned what I was thinking, or

Yea.

So do you think that if you excluded my feelings completely, and only focused on your own, do you think that the distance would be different?

Repeat

The subject was instructed not to worry about the researcher's feelings.

Why did you stop?

Cause you were in the way.

Okay, so did you feel better this time as I told you not to worry about what I think?

Ooh, I don't know.

Did it make any difference?

No.

But you got closer.

Closer.

Okay.

But that's when I came up to you, that was a little too close for a nice conversation (*at this point, the subject stepped back a little).* About this far would be good.

Okay, what were you feeling just before you decided to stop?

(Long silence) I am wondering, should I stop or what?

So why did you?

I don't know, just it happened.

Okay, you just mentioned that you were, you were kind of worried about what I would be thinking.

I was .

9. SUBJECT NO. B8 - HARRY

The subject stammered badly. There were no corrections made in the transcript.

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

Uhm. It's very rarely to have, have the, uhm, pperson surround on you, surround on you, yea.

Okay, as I was getting closer to you, did you feel more uncomfortable, getting more and more uncomfortable or not?

(Long silence) Uhm, yes. (silence) I am not, I am not uncomfortable.

Yea, you did, why?

I have an inner life and I, I don't know, but in my life I, I sspend, sspend, spend, times, times, times alone, yyou know.

I see, so you are not used to being around people too much?

Only, just (silence). Honest, I miss, I miss, I miss my marriage anyway, on

Hm.

I got married in 1964 and we parted in 1970 and it saddened me.

Okay, can you describe what you were feeling just as you started to say stop?

(Long silence) Ooh, that, I don't seem **** enough.

Enough?

Yea.

Why? What do you think would actually happen if I got closer than that?

Probably, if, if, if you bumped into me here, or anything.

Okay, were you afraid of that?

Well, uhm, in, in, in, in a way, yea. No, No, I don't know. I am not afraid of that, uhm, you know, in a way, you know. In a way, I, I, I was, ssomewhat other way.

Okay. So what were you thinking or feeling after you said stop?

(Long silence) Sso, did, did, I feel **** You feel something ddifferent and I feel something different in a way we both****

What difference? Was it in your head or was it something that you felt physically?

It was uhm, something in my head, you know.

Okay, but you don't know what?

It was uhm, It was ****

So how would you describe what made you say stop?

(Long silence) I said that uhm, uhm, uhm, at the right, right time.

Was it, you think the right time for you, or a right time for me?

Rright time, rright time for both of us.

Okay, so can you tell me why you feel uncomfortable when I get this close?

As, as I said before.

Okay, can you describe your feelings before I began to walk towards you?

(Long silence)

Do you remember your feelings before I began to walk towards you? What were your feelings?

(Silence) Uhm, uhm, uhm, I ffeel that

But can you describe your feelings before I began to walk towards you?

(Long silence)

Before I even started to move towards you, what did you feel or think?

Ooh, just, I, I, I just didn't feel anything at all.

Okay, now try to remember as I was walking towards you. Is there anything else that went through your mind but you didn't tell me about?

No.

During?

That you would bump.

That I would bump into you?

Yea, different, different walking. *(laughter)*

Left Side Approach - Slightly Uncomfortable

Can you describe your feelings or thoughts just before you asked me to stop?

Mmy, my crash, crash.

Were you worried about it?

No, I was more worried about you.

So were you worried what I was thinking?

No, uh.

Okay, what did you experience just as you said stop?

(Long silence) Just a ccrash or bump, you know.

Were you afraid that I would crash into you?

No, cause ****

Okay, how would you describe what made you say stop?

(Long silence) I, I, I said it at at the right time. I said at the right time.

Was it the right time for you or the right time for me?

(Long silence) Rright time for, for, for me.

How did you know it was the right time?

My, my, in, in, in, in my instinct, in, in, in, in

Instinct ?

Yea.

Right Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

(Long silence) I was wondering ab, ab, ab, about you were, your na, na, na, nationality.

Yea?

You look German.

No, Polish.

Ooh yea, cccclose, ooh yea.

Okay, did you feel any different when I was moving towards you from this side than from the other side?

(Long silence) No, the same thing.

The same thing.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

(Silence) Uhm that you, you, you would bump into me and that ****

Can you tell me anything about what you experienced just as you said stop?

(Silence)

You said it. What did you feel?

I felt myself like more more comfortable.

Why?

Cause I, I, I'm not not not worrying about you *****

Okay, what would happen if I came closer to you?

I'd feel, uhm, I don't know, I don't know. *(laughter)*

Roles Switched

Do you still feel uncomfortable at this distance?

(Long silence) Nnot, nnot, nnot, nnot really.

Do you, do you, are you more comfortable when I walk towards you or when you walk towards me?

(Silence) Uhm, it's, it's, it seems the other way around.

The same thing?

Nno, the other way around.

When I did, when I walk towards you?

Yea.

Why?

(Long silence) I, no, it's so, no, no differences.

Okay, no difference, what were you feeling or thinking just before you began to walk towards me?

That I, I, I might crush, crash into you.

That you might crash into me?

Yea.

Were you worried about it?

Nnot, not, not really.

Not really, what did you, just before you decided to stop?

(Long silence) Sstop.

You just stopped?

Yea.

You had no feelings about it?

No, I just.

Stopped?

Yes, sssome, ssome sensation.

What kind of sensation was that?

No, like I am a man and you're a female.

Would you feel any different if I was a man? Would you come closer or further?

Uhm, further, just a mmale instinct.

Male instinct?

Yea.

Les - Frontal Approach Towards Harry - Slightly Uncomfortable

(Les) So it didn't make much difference. You thought it would make a difference if it was a man or a woman. But I don't think it makes much. Do you think it made a difference?

Ooh, I thought so.

(Les) Did you feel different?

Actually I didn't feel anything at all.

(Les) You didn't feel anything at all?

(Silence)

(Les) Wasn't any different than before. Was it about the same?

There was a difference, yea.

(Les) I think it was pretty much the same. Maybe you just thought different.

10. SUBJECT NO. B9 - URSULA

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

Hm, thought you are tall, that you are even taller than I am. You are quite tall. There aren't too many people that are that tall in the country. I don't know why.

So this is what went through your mind.

Yea.

Uhm, okay, what were you feeling just as you started to say stop.

(Long silence) Nothing.

Nothing at all?

No.

So why did you say stop?

Because you asked me to stop when, whenever I start feeling uncomfortable, even though actually I was lying a little bit, because I didn't feel uncomfortable at all.

So why did you stop me?

Because your, I think you don't have a piece of paper on the floor where you marked all things. That was another experiment we did, I guess.

Why did you stop me? Why, why didn't you let me get closer than that.

I don't know why.

Did you feel uncomfortable?

No, not at all.

You didn't.

No.

So what made you say stop?

I thought it was part of the experiment, you walk towards me and whenever I feel uncomfortable or whenever I feel like saying something I say stop.

Okay, so did you say stop because you felt you should have said it or because you felt.

Yea, because I felt I should have, I thought I should have said it. Actually I didn't feel anything, like I didn't feel neither comfortable or uncomfortable. Guess I was a little mixed up. I didn't what was, what the experiment is about, whether it's, is, I imagine, it's about spatial, spatial comfortness, or whatever.

For the next approach, the subject was instructed to focus on her own feelings, ignoring the researcher's feelings.

I must be consistent and whenever I am consistent, I don't know. I must be either consistently stupid or consistently comfortable in the spatial, ah, distance and, relation of people to me. I am not sure of what I am consistent in.

Did you feel uncomfortable this time?

No, not at all.

Why did you stop me?

I felt that you were, you are doing an experiment in spatial relation relationships. I thought I was supposed to say stop at any, at whatever time I feel I want you to stop.

Did you want me to stop really this time? Did you feel you wanted me to stop?

No, I guess I'm quite a bit mixed up because I don't know, I didn't know what the experiment is all about if it's about spatial relationships or my comfort.

It's about your comfort.

Well then, actually I shouldn't have said stop then because I am quite comfortable. I could have let you come much closer yet.

Do you want to do it again?

(Les) Lee, don't try to let her come closer. Just let her come as close until you feel slightly uncomfortable. Don't wait any longer than that, just when you feel slightly uncomfortable, you say stop.

Okay.

Don't worry about what you should or shouldn't do, just focus on what you feel. When you feel you begin to feel slightly uncomfortable, when you want me to stop, okay?

Okay.

Did you wait for the right time to say stop?

I don't know if there is a right time or a wrong time.

Did you wait for this time? Did you, did you wait for the moment you would say stop?

Yes, I waited patiently to say stop, I did not want to say stop too soon. I don't want you feel that I feel uncomfortable about you.

Don't worry about what I feel or think. We are worrying about how you feel, okay? So why did you say stop?

I thought that was part of the experiment that I say stop whenever I feel what what I feel, and it's not about me feeling uncomfortable about you, spatial relationships to me, but I thought I was supposed to say stop at some point.

So if this was not in the experiment, you wouldn't worry about me getting too close.

I didn't think it was that experiment at all. We did that before once and we had a piece of paper on the floor.

Would you be worried if I touched you?

Not at all.

How do you feel now? Do you feel comfortable?

Yes, I do. I am scared to breathe in your direction because I have caught a cold and I am selfish. I don't want to give it away. I think that's just the only time where it's permissible to be selfish. When you have cold you don't want to share.

Can you describe your feelings before I began to walk towards you?

Uhm, I felt just a touch of silly.

Why?

Because I didn't know what all this testing is about, even though I think it is about spatial relationships or whatever. No, actually it is about you and your thesis of something. No I shouldn't really feel silly.

No, what we are trying to find is how big these spaces are of people, that make them feel uncomfortable. That's all we want too find out.

Front Left Approach - Slightly Uncomfortable

(Subject's comment after the approach) I think she is going to kiss. Oh no, that's not permissible and I am not sure it's not part of the testing.

Why did you stop me?

Cause I thought that's part of the experiment here. Did you work something down on the floor? No, you didn't. I think you are just testing how comfortable I am with people coming close to me.

So you felt you didn't want me to walk, that this was the right time to say stop.

Yea.

What do you think would happen if I came closer than that, if I didn't stop?

I would probably give you my cold and that would not be nice of me.

So you were worried about your cold?

A little, yeah.

If you didn't have that cold and you were not worried about giving it to me, would you let me come closer

Yes***.

Repeat

(Subject's comment) You are getting awfully close. Next time we are going to be kissing and I'm gonna **** my head. ***.

Left Side Approach - Slightly Uncomfortable

(Subject's comment prior to the approach) You are awfully close. Next time we are going to kiss. No we aren't going to****.

Can you describe what you were feeling or thinking just before you asked me to stop?

What time it might be. Food, actually it's five to eleven? I could have looked over there and see what time it is. Actually it might be eleven.

Are you hungry?

Very, always hungry, that's something wrong with me.

So can you describe what you experienced just, just as you said stop?

My feet were starting to hurt me. I don't think it has anything to do with the experiment either.

Your feet?

Yea.

(Subject walked around to "get the circulation going").

Frontal Approach - Very Uncomfortable

(Subject's comment during the approach) It must be getting closer. Not too much closer**** I am selfish to give you my cold. ****.

Why?

Which wouldn't be nice. Why do I keep thinking about that?

When you are standing as you are standing, as opposed to the other way, when you were facing the other way. Why didn't you let me get as close this time as you did before. Why didn't you let me bump into you this time?

I don't know ****.

So why did you stop me? This time?

Because I thought it's part of the experiment that I say stop when I want.

Mhm.

I feel there is danger coming.

Were you afraid of me?

I am not afraid.

So what, where would this danger come from?

It came, came from me.

Did you feel you could do something to me?

(Long silence).

So what were you afraid of?

I guess I can be afraid of myself.

Okay, but what do you think would happen to yourself, what would you do to yourself by ****closer?

(*Long silence, laughter)* I would laugh out loud.

That you would laugh?

I'm silly.

Did you find that funny?

Yea.

Why?

I find the whole experiment funny. I guess I don't understand it. I'm****.

Do you find me funny?

Yes.

Why? What's funny about me?

No, not actually you, but the tests, experiments. It's not you that's funny.

Okay.

Frontal Approach -Very Uncomfortable

(Subject's comment during the approach) Pretty close, you'll push me. It's **** It's**** not appropriate, considering my cold ****** and me being in official position of testing. *****.

Can you describe what you were feeling just before you asked me to stop?

I was wondering what time it would be, and if it's close to lunch. That's unfortunately the way I think ****lots of times**** My stomach thinks for me all the time. I don't know if stomachs can think. Like I don't have a watch or clock. I don't need one. My stomach is my watch or my clock..

So did you feel that you stopped me so that the time would go faster, so that you could go and eat your lunch?

No, I don't think that would change****. No matter what I think is not going to change the time. It won't make the clock go any faster..

So what were you experiencing as you said stop?

(Whisper) I don't know..

Are you tired?

Yeah.

(Les) Maybe you want to walk around, we're just about finished. (Subject walks around).

Repeat

(Subject's comment) She can hug me.

Roles Switched - Slightly Uncomfortable

Do you still feel uncomfortable at this distance?

No, I feel I can't come very much closer***** Since this is a public place. This is not a public place. What is this anyway? I think this is NABIS. Semi-public anyway. Whatever.

Would you come closer if this was not a semi-public place?

No.

Do you feel more comfortable if I walk toward you, or when you walk toward me?

Makes no difference at all.

What were you thinking or feeling just before you began to walk towards me?

(Long silence) ***.

11. CONTINUATION OF SUBJECT NO. B9 - URSULA

Frontal Approach - Slightly Uncomfortable

I stopped you, otherwise we would bump noses.

What would be wrong with that?

Nothing, I don't have a cold now, you don't have to.

Repeat

Am I closer to you now than I was?

I think so. About 3 inches.

3 inches closer?

I think so. I hope than I'm ready to guess.

You saw, you think this time you let me come closer than before?

The second time I let you come closer than before. No, the third time I let you *****.

But I mean now. Did you let me come closer this time than you did the time before?

Yes Okay.

Repeat

Am I coming closer to you now?

I think so, the next time you will almost hit me if I let you.

Repeat

Am I coming closer or further?

It seems like the last time. Closer than the first time, the second time was closer than the first time, so the second time would be closer than the first time too.

Why would you think that the third time would be closer than the first time?

Because I, third and the second time I let you come just about the same distance. The second time I let you come closer than the first time and the third time would mean you, uhm. I let you come closer too than the first time. By sheer mathematics, I think so. I've been good in math. But this is not a math lesson.

Repeat

(Comment) Kissing, I don't know if it's included in the test.

Am I closer this time or am I further?

The same distance as the last time.

How far is that?

Foot and two inches.

Why do you allow me to come closer all the time?

I don't know why.

You think you do?

I don't think. I let you come really close. I know that's not included in the test but*****. I definitely don't feel uncomfortable with you coming closer.

Why did you let me come closer you think, second time than you did the last time?

I don't know why.

Are you sure it was closer?

I think so.

Am I too close now or is it all right? (60 cm.).

Ooh no, a very comfortable distance.

Am I closer or further than the first time?

You are about one inch further away from me.

You don't feel slightly uncomfortable?

I have flat feet.

Repeat

I don't know if I don't feel uncomfortable

So why did you stop me?

Because it's a test of how close I like people come to me.

Is that where you would normally stop people?

I don't know. In real life I have had situations where I let people come really close to me.

Am I pretty close or pretty far now?

Ooh, you are two or three feet away from me, at arms length from me.

Is that far?

It's not far and it's not close. I don't know why.

Did you want to?

Yea. I thought you were gonna bump into me. I think you're coming closer and closer.

This time, did I come closer than the last time?

Yea, and closer than the first time, closer than the second time, whatever, I don't know. I think you're progressively coming closer.

Repeat

Why do you ask me to look at you and say stop when I feel differently? I'm gone let you come right up to me. I didn't say stop. I decided, I'll let you come right on my home base. I'll let you on my home rock.

Why did you let me to come so close this time?

Because I'm quite comfortable about you.

12. SUBJECT NO. B10 - RON

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

My mind was blank.

Completely?

Yea, but I felt a little bit uneasy.

Why?

I don't know why.

But you did.

Yea.

Was it a physical thing or was it in your head?

It's in my head.

Really? So describe what you were feeling just as you said, as you started to say stop.

(Long silence) Was***** by me.

Okay, what were you thinking about or experiencing just as you said it?

I don't remember *(laughter)*.

You don't remember?

No.

Okay, did you feel any different when I stopped than when I was walking towards you?

Yea, I did.

What was the difference?

I thought of backing up, you stopped, I felt.

So actually as I was getting closer, did you feel progressively more uncomfortable?

Yes.

What do you think would happen if I got closer than that?

I don't know.

So how would you describe what made you say stop?

How? I don't know, I was afraid.

Of me?

Yea.

What could I do to you?

I don't know *(laughter)*.

So you felt, did you wait for the right time to say stop?

Yea, when, when you came up here, than I figured that.

Mhm

Time, time to stop you.

How did you know it was the right time to say stop?

Cause something told me.

Something in your head?

Yea.

Okay, can you tell me why you felt uncomfortable when I got this close?

I don't know why I get uncomfortable.

I, I feel uncomfortable, yea but I don't know why.

What were your feelings before I began to walk towards you?

Felt relaxed.

Uhm, if you can try to remember as I was walking towards you, is there anything else that went through your mind but you didn't tell me about?

No, I, I was just thinking at the moment of, of what you were doing.

Okay, what was I doing?

You were walking towards me *(laughter)*.

Left Angle Approach - Slightly Uncomfortable

The subject had to sit down for few minutes prior to the approach. Neutral topics were discussed. No comments were made either during the approaches from the left angle and the left side.

Right Side Approach - Slightly Uncomfortable

Can you describe what were you thinking or feeling just before you asked me to stop?

Nothing.

So why did you stop me?

(Laughter) I don't know.

Did you, did you feel that it was the right time to say stop?

Yea, Yea.

So how did you know it was the right time?

I don't know, it just came to me.

Suddenly?

Yea.

Okay, what did you experience just as you said stop? You, you said it, what you experienced at that moment as you said it?

(Silence)

Can you remember that?

No.

What about after you said stop? Was it different for you?

For me?

Yea, did you feel any different when you said stop than when I was walking towards you?

No.

So when I stood at this spot in front of you, did you still feel uncomfortable about me being here?

No.

Why?

Because you're near me *(laughter)*.

Okay, you said, you said stop because you felt you were getting slightly uncomfortable.

Yea.

But after you said stop, you didn't feel better.

No.

So you stopped feeling uncomfortable?

Yea.

You did, I wonder, this feeling or whatever it is that made you say stop, was it something in your head, or something that you felt physically?

No, just the head.

But you mentioned a minute ago that your legs started to shake.

It's pretty sore.

From standing too much I can't stand still in one spot, I gotta walk but I can't stand still in one spot.

Right Side Approach - Slightly Uncomfortable

Okay, can you describe what you were thinking or feeling just before you asked me to stop?

L

I feel uneasy.

Why?

I don't know why, just uneasy but my legs bother me.

Did you feel any different when I was walking towards you from this side than from the other side?

No, no.

You don't know why you felt uneasy. You think this feeling of uneasiness, it came from inside or it came from outside?

Inside, inside from my head *(laughter)*.

Subject Turned Left - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

A little uneasy.

Was it more uneasy than the first time around?

No.

Was it more easy than the first time around?

No.

Did you feel that you didn't want me any closer?

No, that's fine, too close.

Okay, what do you think would happen if I did come closer?

I don't know, I don't know.

Okay, what did you feel just before you decided to stop me? Just before that?

I felt the urge to stop you.

Was it a strong urge?

Yea.

Okay, but why?

I don't know, I don't know, do you get that feeling, he? You feel there is danger, you don't wanna, you know.

Okay.

I am not, that you're dangerous, mind you, but, but you get that feeling he?

Do you get this feeling all of a sudden or this feeling is slowly

Slowly creeping.

And it reaches a certain point?

Certain point and stop.

And that's when you said stop?

Yea.

Did you have that kind of feeling from the very moment I started to walk towards you?

After you stopped.

Yea, what happened?

Yea, it was, I felt relaxed.

Why?

I don't know.

That's interesting, so this feeling of discomfort disappeared?

Yes.

Roles Switched - Slightly Uncomfortable

Do you feel more comfortable when I walk towards you or when you walk towards me?

When I walk towards you.

Why?

I don't know.

What were you feeling just before you began to walk towards me?

I felt relaxed and all of a sudden.

And all just came again?

Yea.

So you don't feel uncomfortable at this point right now?

No.

13. SUBJECT NO. B11 - MEL

Frontal Approach - Slightly Uncomfortable

(Comment prior to the approach) It's two feet but I know you will be close enough

Can you tell me what you were thinking about or experiencing as I was walking towards you?

I was thinking about (pause), I was thinking about coming a little bit closer as you are a female.

Okay.

And I have a weakness inside on them and my feeling or judgment quickly said to me, stop, don't take a chance on this lady.

What chance?

That she might try to want try to use me for something. Maybe just for the money I have or something like that.

So actually when I was coming closer, you were more concerned about what I was thinking than about what you felt, right?

Yea.

Why?

Well, actually what I experienced from the past.

Okay

I have experienced now. It's almost the same, the same as I felt.

What kind of experience was it, what happened in the past?

In the past I felt I experienced *(silence),* I found myself too close to them and they used me and everything. *(silence)*

Okay.

Than I did not know what I was doing.

So you had bad experience with women in the past?

Yea.

Do you like women?

It depends what sort of nationality they are.

Okay, okay, so did you feel you could allow me to get closer than that?

Really, I felt.

What would you feel if I came closer than that?

Nice, warm body coming close to me (silence)**** be love**** he or she would have thought that I need and

Okay, so what you are saying is that I have no love in my heart

No, I am not saying that. You do have love in your heart. What I do say is that you are a nice, kind, lovable lady.

Thank you. So you think you would allow me to get closer than that

Yea.

So why did you stop me?

(Long silence) Went by my reactions

What reactions? .What would happen to you if I got closer, what would you do?

Well, I'd probably wrap you around on me and, I can't explain it. *(laughter)*

Are you afraid of that?

Yea

You were?

No, not afraid of it. It's not. I am here in public property and, so, I know I cannot do anything like that.

If this wasn't a public property, would you behave in a different way?

I would have, yes.

You would have, so it makes a difference to you?

Yea.

That this is a public place?

Yes.

Okay, what were you feeling just as you started to say stop?

Nothing really.

Nothing at all? Nothing went through your mind?

(Long silence) No, I just said stop.

And what what were your feelings after you said stop?

Well, my feelings after I said stop were very friendly, were that I should have let you some a little bit closer. I was feeling, here comes the nice, nice, kind lovable heart coming closer.

Okay, that's what you thought?

Yea.

So is how would you describe what made you say stop?

I don't know how I'm going to describe it. Probably I could say, looking in your eye, in your facial expression, it's stop.

Okay, was it something about me that made you say it?

(Long silence) No.

Okay, did you wait for the right time to say stop?

(Long silence) I wouldn't really know.

So okay, why do you feel uncomfortable when I get this close, or do you feel uncomfortable

(Long silence) No, it wasn't anything negative.

Did you feel uncomfortable at all? You stopped me at this distance about right here. Do you still feel uncomfortable at this distance?

No.

You don't but you did?

Well.

So why you don't feel uncomfortable now?

(Long silence) I couldn't really, I can't really explain myself.

Now try to remember as I was walking towards you. Is there anything else that you thought about but you didn't tell me?

No, what I'm feeling, I'm just saying that's what I felt. Uhm, I am just saying that's

Okay, so as I am wondering, did you feel uncomfortable at all when asked me to stop?

Well, uhm, I wasn't really uncomfortable at all.

So if it wasn't a feeling of discomfort what was it that actually made you say stop. You say you are not uncomfortable, but you must have felt something that made you do it. So what did you feel?

(Long silence)

When you said it?

I wouldn't really know what I would have felt.

But it wasn't discomfort?

No, it wasn't negative.

Left Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

Well, to be really honest I wasn't thinking or feeling anything.

Nothing at all?

Nothing at all.

So why did you stop me?

I just don't know.

What is it inside or outside that made you say stop? There must have been something that made you say it. Why did you?

(Long silence) Well, when you were walking towards *(silence)* **** me I was feeling that you just, uhm, that you were nice, warm, kind hearted lady that's coming, gentle lady that's coming towards me ****, the kind here who cares, lovable lady.

Thank you. So if you felt so positive about me, why didn't you let me come closer?

I did not wanna do anything negative to you.

What, what negative could you do? What do you think you could do to me that would be so negative?

I couldn't really know.

Okay, so I was walking towards you and you asked me to stop, were you concerned about what I was feeling or were you relying on what you were feeling?

I was concerned. I mean about others' opinion.

Of my opinion?

Of my opinion and your opinion, what were you feeling.

So what do you think I feel towards you?

(Long silence) Well, I felt, I felt that you felt you seem to take a chance on me.

Okay?

Because you're just***** taking your study.

Okay, so how would you describe what made you say stop?

(Long silence) I wanted to say stop.

You, you cannot tell what it is?

No.

As I stopped did you feel more uncomfortable than when I was getting closer to you?

(Silence)

Did you feel any different when I was just standing there and not moving then before I stopped?

(Long silence) No.

You didn't. Are you sure?

Quite positive.

Okay.

Right Side Approach - Slightly Uncomfortable

What were you feeling, what were you feeling or thinking just before you asked me to stop. Just before you said stop, what went through your mind and what did you feel?

Well I wasn't. Actually I didn't feel anything really. I just didn't stand it, watching you coming closer.

Mhm

But I didn't feel anything.

Were you not feeling more uncomfortable when I was moving close

No.

You weren't?

No.

So did you feel any different than when I was moving from this side than from the other?

Yea.

Wh, what's the difference, what's?

Well, I wasn't really feeling anything from this side to this side.

No difference?

No difference at all.

Right Angle Approach - Slightly Uncomfortable

Did you feel uncomfortable at all?

I didn't feel uncomfortable at all.

Frontal Approach - Very Uncomfortable

What were you feeling just before you asked me to stop?

I was feeling, uhm. Really I can't put anything in details?

Try to say generally whatever you remember what were you feeling just before you asked me to stop, just before you said stop what went through your mind, what were you feeling at that moment.

I was feeling *(long silence)*, here comes a nice, good looking lady (long silence), lovable, and I would like to get to know her****, talk to her, chat with her.

Okay.

But she was further away, not closer.

Okay, okay, so uhm, so what did you experience as you said stop? What did you feel, what went through your mind?

Well, feeling or like ***** again, feeling she might take advantage of me, for just for the money I may have, feelings she knows more than me, she knows or she might not know that there is something **** some kind of physical loss, physical handicap or disability

Are you, when you are talking with new people that you meet, are you concerned with your disability or the fact that you have an injury? Are you conscious of that or you don't think about it?

Really, sometimes I did think about it and I feel kind of concerned about it too.

Like what are you worried about?

Worried about the disrespect for me.

You think that people take advantage of you and you are not aware that they are doing that?

Yea.

When you met me, did you think I would do that?

Well, not really.

But you are not sure

I am pretty positive you are nice, beautiful pretty lady, that you wouldn't take advantage of me.

Repeat-Right Side Approach - Slightly Uncomfortable

The subject mentioned that he forced himself to allow the experimenter get closer than he really wanted her to get.

Repeat

Before, when I walked towards you from that side, you stopped me very far, about this far (experimenter positioned herself at the point where she was stopped during the first approach from this direction). This time you let me come much closer, why?

Well (*long silence*), I, I, I was standing here, looking over my right shoulder. I was saying to myself, come on closer, come on. I might as well take a chance.

Okay, so did you force yourself to let me get closer, or you didn't?

I guess I forced myself.

You forced yourself, so you did something against what you felt you really wanted to do?

Mhmm.

Frontal Approach - Slightly Uncomfortable

(The subject was instructed to follow his "natural feelings" and not force himself to allow the experimenter come close.)

This time as I was walking towards you, did you force yourself to get closer, or you just felt you were beginning to feel slightly uncomfortable?

I was (*long silence*)**** I was slightly uncomfortable.

So you didn't force yourself?

No, I didn't force myself.

But before you did?

Right.

Roles Switched - Slightly Uncomfortable

Are you still uncomfortable at this distance? (the subject estimated the distance to be 3 feet)

Mhm

Why?

I wasn't feeling, no. I wasn't feeling anything **** As I was coming closer to you I wasn't feeling anything.

But why do you feel uncomfortable at this distance still? What are you worried about? Why do you feel, why you don't feel good standing there?

Well, as I was getting closer I felt, feel that you might hit me, you might, might do something to me.

What could I do to you?

Ooh, I don't know. Something that, might **** need to think faster.

What were you feeling or thinking before you began to walk towards me? Remember, just before you began to walk towards me?

I was feeling there is a lady over there. She looks kind of worried or something.

I look worried?

(Long silence) Yea, you look kinda, you **** about something so I thought, maybe I'll go and cheer her up, chat with her.

I wonder, did you get this impression now, or you've had it all the time?

No, I just felt, I had it now.

What did you feel or think just before you decided to stop?

(*Long silence*) I wasn't thinking anything.

So why did you stop?

I just don't know.

Did you feel it was the right time to stop?

Yea

Mel Approaches Les - Slightly Uncomfortable

The subject had to rest for a while before this approach.

Did it make any difference to you that he was a man and I was a woman as you were walking towards us? Did you feel more comfortable with me, or did you feel more comfortable with him?

I felt more comfortable with you.

Why?

****You're, you're a female **** I just didn't feel very comfortable with him.

There was one more approach of Mark toward Les. He still felt uncomfortable about being too close to another male. He also complained about the pain in his neck

14. SUBJECT NO. B12 - JOE

Frontal Approach - Slightly Uncomfortable

Comment immediately following the approach.

You could push me over and I'd just fall (laughingly). No, I'm sorry but you know, I would agree. I feel I'm not gonna move nobody. I know you and I know you're not gonna hurt me and whatever so my fear is all gone, so I just st-stand here.

You didn't feel uncomfortable at all?

No, nothing there to hurt.

Comment following a repeat of the frontal approach.

Gotcha.

No? You didn't feel uncomfortable?

No. Sorry, no.

That's okay.

I figured that.

Repeat-Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

This is kinda funny, but I, I say yes, I know you before and I feel well. I know you weren't going to hurt me, so I was just gonna stand here and pretend nothing was happening.

Why? So you were, did you feel any discomfort?

No.

So what was it you were pretending?

I don't know. I was pretending, not to be. I was just like I was scared, because I knew you were not gonna hurt me anyway.

But were you scared at all?

No, sorry.

As I was getting closer to you, okay? Did you feel more uncomfortable or not?

No.

No. Do you pre.... Do you like me standing closer to you or do you like me standing further away?

Wh's probably gonna get a kick out of this but sorry, you could stand wherever you want 'cause, well, I know you and whatever. But yea, I feel anybody could do that to me and it wouldn't really bother. It wouldn't matter if I knew them before. But I don't, I, I would say. I, I don't like a total stranger that I have never seen before to do that to me because then I know. I kinda feel, kinda different about it. Kinda shaky, but it is just like I said. I knew you weren't gonna hurt me, so I just wasn't scared. I felt big deal. Uhm, she's a lady, nice lady *(laughingly)* too but uhm, well, comme ci, comme ca.

Okay, but if you didn't know me, it wouldn't make a difference to you?

Yes, I would say, but yea, I feel, yea, maybe I don't know you but yes, I would say I know you to see you, plus I've talked to you and I, I , dd, ddon't worry..

The experimenter then instructed the subject and emphasized to pretend that they have never met before. A repeat of the frontal approach was then made.

Got ya (pause). No, I'm sorry, but yea. I, you still asked me to pretend you were a total stranger but I'm sorry, yea. I couldn't, yea I still know you and I just.

Okay, so you never, you never felt the urge to say stop.

No.

Not at all?

No.

(Les) Did you get more comfortable as she got close?

No.

(Les) So it stayed about the same?

It stayed pretty well blank, even.

(Les) Did you notice that you smiled just a little bit just before she got to you?

No, I **** I can't remember but I did. Hopefully I didn't crack the plaster *(laughter)*.

Okay, as I was walking towards you and I was getting closer, did you wait for the time to say stop?

No, sorry no.

(Les) For you, do you think there is a difference between feeling uncomfortable or feeling frightened or or scared? Can you tell the difference in your own thinking between just being uncomfortable as opposed to being frightened or scared? Because you said you weren't scared of her and you were not frightened by her because you knew her.

Yea, that's the way I am. Well, I feel, I told you I have taken a walk with my dog every day and whatever. Well I would say I know a good majority of those people too, and say if a person come up to me like she did, I've never seen before, yes, I, I feel, than I just gotta, kind a weigh my chances, but who the ****person I knew. I feel that she wasn't gonna hurt me anyway and I feel what is there to hurt anyway *(laughingly)I.*

(Les) Okay, so, so you think being hurt or scared, that somebody might hurt you. You don't see any difference that with being uncomfortable about the person or with the person (no). So I suppose, suppose she had, had some terrible perfume on. Sshe thought she was gonna put nice perfume on this morning and she happened to pour castor oil or something all over her. And you say when she was getting closer, you'd feel, you'd say it's still the same person, she won't hurt me, she just smells terribly because of this perfume. Do you think you would feel uncomfortable about her presence because the closer she came, the more you could smell it right? You could feel uncomfortable.

Yea, but I would say, hey, she's nice enough anyway. It don't matter what she is wearing *(laughingly*). That's the way I look at it.

(Les) If she is nice enough anyway, it wouldn't matter what she is wearing.

Left Side Approach - Slightly Uncomfortable And Repeat

Okay. what were you experiencing or thinking about when I was walking towards you, what were you thinking about? Can you remember as I was walking towards you, getting closer? What went through your mind as I was walking towards you?

(Silence) Sorry, nothing. I'm just absent minded. I'm up headed the top. It's really nice. The only trouble is getting there I'm sorry. The wind **** cold up here too.

So nothing went through your mind.

No.

Did you feel any different as I was moving closer to you?

No.

Do you like it better when I stand from you that far? *(experimenter moved to 20 cm.)*.

I am sorry but it doesn't matter to me.

Okay.

You, you, you're the person, that's if you wanna talk to me, you can take your own position. That's the way I feel, I look at it. You're the driver.

Does it, doesn't matter to you that I'm a woman?

No.

If I was a man walking towards you, you would feel exactly the same?

Yes.

Okay, so it is, anybody could do the same thing.

Yes, yeah, anybody that I know, yeah. I'm not trying. I feel funny like I know you people, they could do the same thing to me, and I, I feel I'd probably act just the same to them because I feel I've got nothing to be scared about from nobody. So I, uhm, just stand here.

Okay.

Looking like I always have, for 40 years, stupid.

Aah, you're not stupid.

I'm just about though *(laughter)*.

Right Side Approach - Slightly Uncomfortable

Every time I am quite close to you and I am getting closer, you smile. Where does this smile come from?

This is kinda funny, I would say, I'm coming 40 this summer and I've had it for 40 years, okay, I've had my smile and nobody, nobody is slapped it or done anything with it. If I've still got it good. Again I'm perfect.

(Les) But do you know you might smile more when she gets closer to you then when she's far away.

Well, no, it's kind of funny, yeah, I was**, I feel I was looking at her eyes when she was coming closer to me, and ooh yea, I feel. I, I, I could, I could tell, I could read anybody's mind by just looking at their eyes. I, I feel, I know if they're friendly, people or what type of people they are, by just looking at their eyes and if I was to, it read, I hope I am not getting smart here, but I would say I was looking at her eyes, kinda glitter, nice too, I feel and that's fine that's the way it was, sorry (laughingly).

Sso you think I'm a friendly person?

Yes.

(Les) You saw that glitter more when she got closer or is that........?

Well, no, I would say, no I didn't see your face smile actually, but I seen the, ah, well, I would say, it sounds like she was probably holding her smile back but you could see it in her eyes. She was just about ready to smile *(laughter)*. Boy, I used to do that perfect.

(Les) And so when you saw her smile, you just smiled back.

Yea, just naturally.

(Les) But you were just noticing it about her. You didn't feel any different.

No, no, probably it was a reflection from her to me.

Maybe.

Maybe so (voice elevated).

Right Angle Approach - Slightly Uncomfortable

So you think that this time I got closer to you than I did last time or it was the same.

No, I would say, yeah, it was the same, only different angle.

Repeat

You can't move any closer.

You think so?

Yea, maybe so (laughingly).

How do you know?

I, I, I don't know, it's just a guess.

Okay.

(Les) Have you noticed that when Anita got that close, that she stopped for just a second, that you tended to step back? You've now done that about four different times, maybe five times. Why would you step back?

Ooh.

(Les) Did you have a notion that you wanted to step back and did you know you stepped back?

No, I am sorry, no, I didn't know I stepped back. Yea, I mentioned before, I, I look at eyes all the time and I will admit, yes the last couple of times, she come closer. She probably realized I was looking at her eyes, just studying her eyes, and the last time she came, I would, she didn't smile, yes, she is a nice girl but she didn't smile. I could see it in her eyes, she's holding herself back so she knows now. I just looked it that way.

(Les) But I wasn't asking about her and her smile, I was asking, did you notice that you had stepped back?

No.

There was more discussion pointing out that the subject turned a little bit to the side at the end of each approach. He moved his left foot back just a little bit and turned to the side.

Repeat

The subject mentioned that he could not stand in one spot for too long because his balance and coordination were gone after his accident.

Repeat

The subject was asked to repeat the approach to see if he would have a sensation of waiting to step back after the approach.

(Les) You didn't want to step back, you didn't.

No. Well yea, because you brought it ***** attention to me, so I made sure I didn't step back that time, maybe it's me that's wrong for doing that but.

(Les) No, but if you didn't feel like you wanted to.

No, no, before, I probably, by accident why I stepped back.

(Les) Okay, that's fine.

Subject Turned Left - Very Uncomfortable

Okay, as I stopped now, as I was coming very close to you, did you notice that you turned your head a little bit, that you started to look in different direction?

Yes, I tell you the reason why.

Okay.

You, uhm, you remember I told you before, oh about looking at your eyes and I was looking at your eyes again and you started to smile and I thought that, well I'd better not do that because they said to me before, they didn't give me heck but you just suggested and I said no. Ah, probably the smiling I get was a reflection off yours so so I says that fine with the way ****. So I I didn't want to smiling again so I didn't want to get the reflection. Hopefully I am not blaming you but that's the way it is.

Subject Turned Right - Very Uncomfortable

Why did you move your arm back?

So that you would get closer to me (sighing).

Did you want me to get closer?

Yes, ah, I like you too and I just moved my arm back saying that you're closer to me.

Frontal Approach - Slightly Uncomfortable

Do you think it was close enough?

Well, yeah, I would say yeah.

What, why do you think you let me get so close? Wa, was it in your, what do you feel that make, allows you to come that close?

Do I feel, yes, I would say, I said this before but I can remember seeing you over here and I feel, well yea, I know you weren't gonna hurt me. You had to do a job and whatever and I, and, no, I wasn't sorry. I wasn't scared because I know you're a nice girl and you wouldn't hurt me so what you see what you get (laughingly).

(Les) Do you think it would make her do her job any less well if you had stopped her further away? Would that be her fault if you had stopped her sooner?

No.

(Les) So it would be okay for her to still have done her job even if you had stopped her further away?

Yea, but I would say, the reason why I let her get so close was because, well, yeah if I had let her come a little ways, then maybe come this way I'd let you stop half way back. Come from over there. I'd maybe three quarters the way back, and this way it would be a quarter way back, and they're all mixed up. And so that's why I just let it easiest possible to let it come as close as you can.

(Les) And wouldn't that be okay? Wouldn't it be okay if you, if somebody came closer from one way than from the other way?

No, no, because I feel I'm pretty near**** because I used to be a right handed person, but since I've got my dog, he probably taught me use my left hand, and I used to use left hand at work a fair amount too. I could do just about anything with my left hand but I prefer my right. But if I could do it with the left, I'd do it, that's the way I look at it.

(Les) Have you thought about this before, that the idea of coming half way on one line and three quarters on another, had you thought that before or just now as you just said it?

No, I just thought about it when I said it.

Was it just an example or was it something real in your mind?

No, I've, it's probably just an example that I said, will, lets say if I stopped her back there, say roughly at 100%, than I start on this line here, stop you at 75% and over here 25%, maybe, Les would say okay, how come you get then all mixed up, 70, sorry, 25, 100, 75, how come they're all different from whatever. So that's why I say I'll just let her come as close as possible because that way then again no difference in between.

(Les) Is that how you do it with other people too, when people are really just standing around you and you just let them come as close as they want and then you don't have to worry about it?

Yea.

This was followed by considerable discussion of how this subject usually approaches people. He stated that he first stops at a certain distance and observes the potential conversation partner, to see if the latter recognizes him. If they smile, he is welcome and he comes to that person. He also mentioned that he never sets any distance between himself and whoever he wishes to talk to, he lets them set the distance. He reported he could walk right up to people if he wanted to. The expression on peoples' faces is the most important criterion for his decision of establishing the distance between himself and others. As for himself, he has no "hang-ups" about standing face to face.

Roles Switched - Slightly Uncomfortable

I'll move in on you like you are moved in on me. The reason why I put my arms around you was because you said stop when I was uncomfortable. And I am sorry I wasn't uncomfortable. I could keep on walking but I didn't want to knock you over so I put my hands out to grab you. That's the reason why.

Do you prefer when I walk towards you or when you walk towards me, or it makes no difference?

No, no difference.

Okay, uhm, what were you thinking or feeling just before you began to walk towards me?

I don't know****** talking about how I feel. I feel stupid.

Then the subject began to discuss hockey, and when asked about his thoughts prior to the approach, he said that he had none.

Next, the subject was frontally approaching Les and vice versa. There was no difference in the subject's reactions as compared to the same procedures with the original experimenter.

At one point, the subject mentioned that he thought that Les might push him over causing him to fall because his balance was not good.

15. SUBJECT NO. B13 - ROD

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

I was embarrassed.

Embarrassed?

Mhm

Why?

I don't know.

Why, what were you embarrassed about?

Giggly, I suppose. I don't know. It's kind of difficult a test. *(laughter)* I don't know. (silence) I don't know, uhm. Suppose, watch somebody walk towards you.

Why do you think it's hard to do that?

(Silence)

You are not sure.

Not really. (whisper)

Okay, what were you feeling just as you began to say stop. What did you feel then?

(Laughter) Close enough.

For what?

That's close enough.

Okay, what do you think would happen if I came closer?

(Long silence) I'd probably laugh and step back.

Okay, so what were you feeling after you said stop?

Uhm, you stopped, comfortable.

So you, okay, so was that, did you feel any different when I stopped than when I was moving towards you?

Yea, my stomach is so upset. It, it wasn't that. I've got butterflies.

Yea?

I feel uncomfortable.

So this discomfort that you have, is it a physical thing?

Well, I wouldn't throw up but my stomach, I've got tension, yea.

It's okay. So is, how could you describe what made you say stop?

(Silence) That was close enough for contact. Any closer and I wouldn't feel comfortable about it.

Okay, did you, as I was walking towards you, did you wait for the right time to say stop?

Yes.

And how did you know that this right time has come, what made you think that?

I would have felt uncomfortable any closer.

This feeling that you would have felt uncomfortable if I got closer, was it a sudden feeling that you had or this feeling was slowly emerging?

No, it grows, it builds.

It builds and it's a slow process, right?

My stomach is tight as a drum. *(laughter)*

Okay, so why you feel uncomfortable when I get this close to you? Try to think why. Am I threatening in any way?

I don't know.

Are you afraid of me?

No.

But you wouldn't want for me to touch you.

You are an attractive lady, that's true, uhm, I don't know. You are attractive so it's not a threat.

So it's not a fear of me touching you.

No.

It's something different?

Yes, but I don't know.

Okay what were your feelings before I began to walk towards you?

Apprehension. I knew you were coming. *(laughter)*

Apprehension? Okay now try to remember as I was walking towards you. Is there anything else that went through your mind but you didn't tell me? When I stand at this distance from you right now.

I don't really know. (whisper) That's too far.

Is it, it's too far?. You feel comfortable with me here? Or

Ooh, yea, but it's too far to talk with somebody, you know.

So the point where you stopped me, you found it was the, was it a point where you felt most comfortable?

To stand and talk to somebody, yes.

Left Angle Approach - Slightly Uncomfortable

Why, why as I started to walk towards you this was hard for you, what is it, what's so hard about it?

(Laughter)

What makes it hard?

When you know it's a test, when you know, I feel like I am performing. That's how I feel.

Actually as we go along, that thing don't think that you have to perform. It's not

No, no.

You are not expected to perform?

But that's the feeling that you get.

Repeat

Do you still feel uncomfortable with me at this point?

Beginning, I am more comfortable than you were back there.

More comfortable?

But if you came any closer.

Okay.

I am beginning to know you now. I know you a little better than when I walked in the door. *(laughter)* So it's not quite so.

Left Side Approach - Slightly Uncomfortable

Do I know you?

You have to answer that.

I was wondering as I was walking towards you. Why did you ask me whether you know me or not?

I didn't know if you were a stranger. I've, I know you a little. A little better than when I came in. So it's not so difficult. With somebody else I wouldn't like it at all.

Why did you ask me?

Why? Because if you were a total stranger it would be different. You are not a total stranger, you understand what I am saying?

Yea, yea.

If you were a male it would be different a bit.

You think so? How different would it be if I was a male?

(Long silence) Uhm, I why would be different if you were a male? Not necessarily why but how, sure.

Say I was a male walking towards you. What?

More threat maybe, threat with a male.

Would you stop me at a different distance?

I don't know.

You are not sure?

Not sure, it's like my friend would, or my buddies. I mean they could put their arms around me. It's not right but it's not totally uncomfortable but if somebody came up to me and says*****

Okay.

I would not like that at all.

When, when people, uhm. Actually your perception of people as they come closer to you, does it depend on the status of a person?

Male or female, maybe.

But in terms of position, of power, say profession or someone that you consider as a higher person, or

I don't consider anyone as higher person. (*whisper)*

Okay so it wouldn't matter if it was a prime minister or a laborer or anybody else?

If a guy comes in and is covered in chains and he's got boots on you're gonna be more threatened by him. But if somebody comes with a pinstripe suit, hot, hot, you know it's different, people you know. Uhm, if I am totally aware of them, than it's not so bad as if you catch them out of a corner of your eye. Somebody comes in catches me unaware, then I get nervous, you know. If they came from the back, you know.

From the back?

Yea, put their arms around me, I mean no, it would freak me, just totally freak me, you know, yea.

Okay, can you describe what you were thinking or feeling just before you asked me to stop?

Ooh, that's far enough.

Enough?

Yea.

And what did you experience just as you said stop?

Stopped. Than okay, that's it, she stopped.

Did you feel any different after I stopped than before?

My stomach isn't going now like it was before.

Do you feel that you could have let me come closer this time?

Yes, you told me to tell you when I feel.

Slightly uncomfortable?

The moment it goes on, it probably comes no closer than this. I mean, uh Lou, Barbara, they come in and they, you know, but they're like sisters, like family you know, they are different. Tom is a bit boisterous sometimes and I tend to step back from him.

How would you describe what made you say stop?

Feeling, just, that's it, that's close enough.

This feeling, this whatever it is that made you say stop, is it a physical feeling?

Yea, I got really bad butterflies now.

It, it doesn't come from your head? It's right here?

No. It's like you want something to eat and you wanna eat for a while, that's the feeling. It comes on and goes off.

Right Side Approach - Slightly Uncomfortable

(Comment just after the subject stopped the approach) Felt like I was closer but logically knew I was further.

You say it's about four feet?

But I know I'm off in all my measurements now. **** I feel you're closer now then you were before.

So your feeling tells you something different than your logic does.

Yea.

So what is the actual distance you think now?

I think it's about 4 feet, 6 inches. That's definitely closer.

How do you know, you feel I am closer? .Do I look different?

No, I, I feel I let you get close. I could see better with the right eye.

So as a result of accident the other eye is weaker now?

Ooh I wore glasses before but this one has always been a weaker eye.

Is you right eye the stronger one?

Yea.

How about your arms, you are right handed or left handed?

Both, I write with my right, I use my left when I use the hammer. When I kick ball I use my left, I'm mixed up. *(laughter)*

Can you describe what you were feeling or thinking just before you asked me to stop?

I don't know, as this session goes on I feel less and less uncomfortable.

Why you think this is happening?

I don't know, really.

When we first did this, then the second time, was there something in the back of your mind that I could do something bad to you.

Yea, I don't know what the test's on. It could a surprise in there somewhere, so I am leery ****, I don't know what you can do. No I am less uncomfortable because I think you're gonna do the same thing on this side or on that side. Now I know what you're gonna do. I knew you would walk in but I didn't know if you were stopping.

I will walk only as far as you let me.

Well, maybe the test is what will happen. If I go past it, I don't know.

Did you feel different when I was moving towards you from that side than from the other side?

No, it kind of feels different.

Was this side more comfortable?

Yes.

15. SUBJECT NO.13. - ROD

Right Angle Approach - Slightly Uncomfortable

Why did you let, didn't you let me come as close this time as you did the time before that?

I am not sure.

(Subject reported feeling dizzy and had to sit down for a moment)

Do you like this what we are doing?

No.

Are you still nervous?

Uncomfortable.

Does the presence of Leslie here disturb you in any way?

I don't know, if you see a doctor it's usually one to one.

Subject Turned Left - Slightly Uncomfortable

I've lost all perception of distance now. I am far off now but I know you are closer than you were before.

Do you know it logically, or do you feel that I am closer?

I feel you're closer. So what I feel and what I judged, I know that you are closer than before,

Logically?

Yea, but I know that the distance this time is closer to being right than what I said before. Do you understand? My estimates are wrong. What my feelings are saying is right. What my estimates are saying is wrong. This time they're closer to being right. I know she is about 3' 6". But before, when I said you were 4 feet, you were far away, definitely far away.

Frontal Approach - Slightly Uncomfortable

Why do you ask me if I find it hard to keep looking at you?

I do.

What do you want to do. You want to laugh or what?

Nervous laugh, yea. *(laughter)*, Laughing nervously.

Okay, so you are trying to control yourself from doing that?

Yes.

As I walk towards you and I am getting closer, do you think that I feel uncomfortable too?

Yes.

What makes you think that?

Because I did. *(laughter)*, Because I feel uncomfortable ****

What were you feeling just before you asked me to stop?

Leery.

And after you said stop?

Uhm, still uncomfortable but it wore off.

Do you think that as the time passed and I was still standing in front of you, you would feel less uncomfortable?

A lot less uncomfortable.

If you are standing there and I'm talking to you *(experimenter moved to a spot where the respondent stopped previously)* **and then I'm right here.**

As **** standing and we talk. I don't feel as uncomfortable.

Do you think that if the time passed and I was still standing here, would you stop feeling uncomfortable completely?

(Long silence) I'd feel a lot less uncomfortable**

Roles Switched - Slightly Uncomfortable

(Subject's comment prior to the approach) This is even harder now, can I take bigger steps?

Are you still feeling uncomfortable at this distance?

A little more now than when you walk towards me.

More so. Why is that?

I don't know, it should be less.

Don't think what you should. Why do you feel uncomfortable?

Because I do the walking.

Do you prefer if I do the walking?

No, I prefer when I do the walking cause I'm in control.

Okay.

But at the same time I don't feel as uncomfortable as I did at the beginning.

You have the butterflies?

Yea.

But you just mentioned that you feel more comfortable as you do the walking. So which is true, when you walk, or when I?

I feel like now, like I did at the beginning, when you were walking at the beginning, yea, the same as I feel now.

Yea?

Yes, but when you walked the time before, just now, I didn't feel as bad as I feel now, but I felt this bad at the beginning ****

What did you feel or think just before you decided to stop?

Just stop, that's it, that's enough.

How did you know it was the right time to say stop?

My stomach started. It's calm now. It was the comfortable distance, one more step would be uncomfortable.

Next approaches were done from the back. The subject reported feeling extremely uncomfortable.

He said that he felt the experimenter approaching, even when the latter did not move forward. Anticipation of the approach made this subject very nervous. He reported a large difference in perception between the first and the second approaches. The first time when the experimenter moved, the subject reported "feeling her", the second time it was merely anticipation, and not the "feeling".

16. SUBJECT NO. B14 - BARRY

Frontal Approach - Slightly Uncomfortable

Can you tell me what were you thinking about or experiencing as I was walking towards you?

(Long silence) Mhm, just a blank feeling.

Blank?

Yea, I, I don't know, I can't explain it, just something, okay, that's enough.

So why did you stop me?

I figured that was close enough.

For what?

I don't know.

So what would happen if I didn't stop? If I came closer.

I'd go backwards.

Okay, so you can describe what you were feeling or thinking just as you began to say stop.

I don't know. That's close enough, I guess.

Did you, as you began to say stop, okay? Did you feel any different than when I was walking.

Yea, relief.

Relief? Why?

(Long silence) I don't know.

So how would you describe what made you say stop?

My voice.

Okay, you said stop, okay, you stopped me, but what was it inside?

I don't know. I get feeling right in here. (subject points at his chest)

Right in your chest?

Yea, it's uhm, that's close enough.

What, is it a bad feeling or is it a good feeling, what kind of feeling?

Uhm, I don't know what you can call it. Kind of woozizng feeling. I get it all the time

You get it all the time with me here, or

No, no, with anybody.

Anybody?

Yea.

Anywhere?

Yea, anywhere.

So, uhm, do I understand it right, that you don't like people close?

Well, 3 feet, that's close enough.

Okay, as I was getting closer to you, this feeling, was it getting.

Stronger and stronger.

Okay, stronger and stronger, mhm. Can you tell me why you feel uncomfortable when I get to that point?

(Long silence) Life.

Life?

Life, I guess so, I've been pickpocketed and it's just something, uhm, far enough is far enough

Are you in any way threatened by me, or by Leslie, or?

No.

What were your feelings before I began to walk towards you?

I don't know, I don't think I had feelings.

Try to remember as I was walking towards you. Is there anything else that went through your mind but you didn't tell me about?

No.

I am wondering, you said you liked people at 3 feet and also that you've had some bad experiences in the past, like being pickpocketed right? This preference of 3 feet, did it happen you after all these things happened to you or were you the same, always?

No, before I was pickpocketed I never, never thought of it, so now, it's 3 feet and they can stay there. Ooh, I'll walk in the bar and say hi, how are you doin".

Is that 5 feet now?

More or less.

And you wouldn't come closer than that?

You see? Yea, so my arms reach, somebody's not gonna get to the back pocket unless somebody else's walking behind you and if somebody's walking behind, I'll turn like that. *(subject demonstrated)*

And you feel that somebody's walking behind you, how do you know that somebody's walking behind you? You don't see that person?

Eyes in the back of my head, I guess.

Are you, do you feel any different when people are standing in the back than in front?

Yea.

How? What?

Well, not really feeling different but I seem to put pressure on my wallet and my pants so that if somebody tries to get in, to get my wallet, they can't.

Okay, say you're walking on the street or in a shopping centre somewhere.

Yea?

You said that if somebody's walking behind you, you can feel or you know somebody's right behind you, even though you didn't see that person.

I usually know that they're there, that somebody's behind me.

You just know it?

Yea.

You can't describe what it is?

No.

Left Angle Approach-Slightly Uncomfortable

(Comment) You get that feeling

Yea? What is the feeling that you are getting?

I'll just kind off, uhm, I don't know, I'd say it was a very, very empty feeling.

Empty?

I don't know. You call it.

You feel it now when I'm st (experimenter approached the subject and stopped at a distance of 1 foot from him).

Yea.

You would like me to step back?

Yea. *(laughter)*

I was wondering, as I was walking from this angle, did you feel any different from when I walked from the front?

No.

Side Approach - Slightly Uncomfortable

Can you describe what you were thinking or feeling just before you asked me to stop?

You'll soon run into me.

You thought I would run into you?

(Laughter) I don't know. I was just waiting for my little, whatever you call it, to start working up and st

It started working up?

Yea.

Was that what made you say stop?

Yea.

Would you be afraid of me coming closer or touching you?

No, but it all depends on who it is and what, he?

What did you experience just as, the moment you said stop?

Relief, that would stop, it's like tingling me, it's, I don't know how, how to describe it.

But this feeling, that thing that was working up in you, okay? Did it quit when I stopped?

Yea.

But before that, when I was walking towards you from this angle and you stopped, I asked whether you still felt uncomfortable with me at that distance. You said, you felt uncomfortable, so this feeling of discomfort when I stopped and was still standing on that spot, was it different than the feeling of discomfort as I was getting closer?

Well, it, when you're walking he? It starts the minute you move your foot, it starts and just keeps building and building and building and something in my head says, okay, that's close enough

Okay, before you stopped me at this distance, I was standing right here. You felt uncomfortable?

Well, not with you. But can feel a little bit in there.

So how would you describe what made you say stop?

Fear, I guess.

Fear?

I don't know.

Fear of me?

Must be. *(laughter)*

Right Side Approach - Slightly Uncomfortable

Can you describe what you were thinking or feeling just before you asked me to stop?

I don't know. Well, that's close enough.

Did you still get that tingling feeling?

Ooh yes.

In your chest?

Yea.

Did you feel any different as I was moving toward you from this side than from the other side?

A little more on this side because my wallet is on this side. No money in it but it's something I, usually I have my wallet on the other side but there's no pocket on that side, so if it's on that side.

If you didn't have your wallet with you, would you feel different?

No, I'd probably feel the same just to make sure that that's close enough.

Did you wait for the right time to say stop?

The right time?

Okay, I was moving towards you, getting closer. Did you wait for the right time to say stop? Did you wait for any kind of feeling that you would get?

Ooh, yes, I usually do.

So you knew it was there?

Mhm

So how did you know it was the right time, that the feeling was there?

Ooh, I know the feeling.

You said when I moved toward you one foot you already began to feel something. Why didn't you stop me earlier than at three feet. You could have stopped me sooner. Why didn't you you…

It was arms length.

Arms length?

Yea.

So did you wait for the time that I would be from you at arms length?

More or less, yea.

And when I stopped did you know that I was from you at arms length?

More or less.

Subject Turned Left - Slightly Uncomfortable

I am wondering when we first did this when I first started walking towards you, not now but when we began the whole thing? And you stopped me, did you feel very uncomfortable or did you feel slightly uncomfortable?

I felt about the same.

So each of these times you felt you didn't want me closer?

Yea.

Any closer?

Yea.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

That's close enough.

As we are doing this experiment and I am walking towards you from all directions and you know what this thing is all about, do you feel any different about me walking toward you or you don't?

Not really, just there is one thing about me that people, there's a distance, it's just like a little fence around there.

You have a sense of a fence?

Well, in a way, yea.

What is this fence protecting?

Me.

Protecting you?

Must be.

And where is you?

What is me? A person.

You said you liked people at arms length. You think arms are there to protect you or are they part of you too?

They are part of me to protect me as well.

What did you feel, what did you experience just as you said stop?

Relief.

As you said stop, you felt different from before you said stop?

Yea.

Roles Switched-Slightly Uncomfortable

Are you still uncomfortable at this distance?

No, not really because that's me approaching

So how is it different for you that you are approaching

Because if I am approaching, I'm approaching for a reason. Somebody else approaching, for what reason I don't know

What was your reason?

You asked me to.

So what difference does it make to you in this context, that you walk towards me, or I walk towards you?

If somebody calls me, hey Barry, come over here for a minute.

Okay

Right here is good enough, close enough. But if I wanted somethin', I'd have to go up to you, right?

And you get closer than?

Sometimes. Depends who it is.

So in this situation, in this experiment, did you feel more or less comfortable, or there was no difference when I walked towards you or when you walk towards me?

Ooh, I felt more comfortable when it was me walking.

Why?

Because if I don't wanna see you I walk the other way right? If I wanna talk to you or say something to you, I can walk up to you and feel more or less comfortable myself. But if I'm standing in the bar or whatever, and somebody walks up to me, what does he want?

So you're wondering what goes through person's mind?

Yea.

Approach From the Back - Slightly Uncomfortable

You feel uncomfortable?

A little bit, cause somebody is behind me and what they could do is pull*****stab my back or things like that I tend to stay one step ahead of things

Okay, as I was getting closer to you did you get that creeping feeling?

Yea.

In the same place or different place?

Yea, the same place.

Where?

In here. (pointed at his chest)

17. SUBJECT NO. B15 - JEFF

Frontal Approach - Slightly Uncomfortable

The subject sat at an angle of 45 degrees, with the 0 mark under the centre of his wheelchair. He made "funny" noises prior and during the approach, laughed loudly when the procedure was explained, saying that he would allow the researcher to come "all the way". He felt that the procedure was "funny". He also bent over and made "welcome" gestures during the approach.

Frontal Approach - Slightly Uncomfortable

(Comment during the approach) Stop, if you take one more step, you will touch my foot.

You thought so?

Ooh yea, they were about quarter of an inch away I guess.

What were you thinking or feeling as I was walking towards you?

Look at you when you laugh and I love it.

So why did you stop me?

I should not have stopped you. I should have let you come all the way.

Okay, you feel you should have let me come closer, why didn't you?

Because there is two other people in the room and we're not by ourselves.

So if these two people were not in this room, you would have let me come closer?

Ooh yea.

Okay, what were you feeling or thinking just as you started to say stop?

I was wondering if it was all right I guess, all right.

What's all right?

That I said stop.

You are glad that you said stop?

No, no, but there is two other people in the room too.

Okay.

That's okay so that's why I said stop right here.

But what were you thinking or feeling after you said stop?

Just all right.

Did you feel any different after I stopped than when I was walking towards you?

No.

You didn't so what made you say stop?

Cause there is two other people in the room.

Okay, but it was inside of you or outside, that made you say it, why did you?

I guess you're close enough to me. I don't know.

Did you wait for the right time to say stop?

No.

So how did you know it was time to say it?

Because you're close enough to me and if you were walking much further you would hit me or do anything like that and didn't feel like getting hurt and you didn't feel******

Did you feel that I could hurt you?

No, not really hurt me, just walk, hit my chair. It's funny, no I don't think you could hurt me.

You think you could hurt me?

No.

Left Angle Approach - Slightly Uncomfortable

Prior and during the approach, the subject made "welcome gestures" laughing loudly.

As I was getting closer to you, did you feel any difference?

No.

So why did you stop me?

I shouldn't have stopped you, I should have let you come all the way *(laughter)*. No, I guess, I guess I stopped you because I felt it was all right.

Right for you or right for me?

Both of us. Like you wanna come closer. I don't know, I am not telling anything.

Repeat of the Left Angle Approach

(Comment prior to the approach) I wonder, I am not gonna say it all.

Why did you stop me?

Ooh because I figured you were close enough to me.

What would happen if I came closer?

Nothing.

You still feel uncomfortable with me standing here?

No, no, no.

When I was walking towards you, you said that you wouldn't stop. What made you think that you wouldn't?

I didn't wanna stop you, I tell you I wanted you to keep coming close to me.

But you still stopped me.

Yea, that's right, I guess you know why.

Why?

(Laughter) You don't know why? There is two other people in the room here so I stopped. That's right, that's okay. I had no reason. I just stopped you I guess.

Left Side Approach-Slightly Uncomfortable

What were you thinking?

That's all right.

What were you thinking, try to remember what were you thinking before you asked me to stop?

I don't wanna say it.

Say it?

I had no reason to stop you. I just feel you were close enough so that's what I did. I didn't want you to walk much closer cause you could hurt your feet*****. I guess, I don't know. Doesn't matter to me.

So what did you experience as you said stop?

(Laughter) Darn it. Why did you say it. Darn it, darn it, darn it. I shouldn't said stop. I should have said come on closer. Come closer.

So what made you think stop?

I said stop, close enough. I mean for yourself. It's for you I said stop. I didn't want you to walk much closer to hurt yourself.

Were you more concerned about me or concerned about yourself?

(Long silence) I was more concerned about you. I wasn't concerned about me at all.

Just myself?

Yea.

Okay.

I don't want you to get hurt at all.

Right Side Approach - Slightly Uncomfortable

Why did you stop me?

I shouldn't have stopped you.

But you did.

Yes, I know, cause I feel all right.

What were you thinking or feeling just before you asked me to stop?

I wasn't gonna say stop at all. That's right, that's what I was thinking.

Did you feel any different when I was moving towards you from this side than from the other side?

No, no difference.

Right Angle Approach - Slightly Uncomfortable

Prior to the approach the subject made an attempt to move backwards and had to be stopped.

Why did you move, Jeff, with your wheelchair. Why did you move before I started walking towards you?

Because you were walking right toward my foot there, so I just wanted to move my foot away.

Are you worried that I might hurt your foot?

No, not really hurt.

So you were worried about your foot?

No, not.

When I walk towards you from this angle, do you feel different than when I walk from the other angle?

No.

So why didn't you let me come closer?

Ooh, because I didn't want you to hurt my leg*****

So you were protecting your leg.

Yea.

I want to ask you one more question about that? When I walked toward you from this other direction and you asked me to stop, you feel any different when you ask me to stop when I am close to your leg?

Not really, no. I just didn't think that you would walk into my leg anyway.

But were you afraid of that, that I might?

Yea.

Are you more worried about your leg than about other parts of your body?

No.

Do you feel that you have any special protective space around your leg? Is there a distance that you like people to keep away from it?

Yea, all of me.

How big is that distance that you like people to stand from your leg?

About three feet.

Than what about standing from your other side?

Two, three feet.

Repeat-Very Uncomfortable

What do you feel now?

All right.

You wouldn't want me to get any closer than that?

Ooh yea, I would, you could come closer.

Like right now? Can I still come closer than that?

If you wanna hurt your leg.

Would you let me come closer than that?

Subject moved backwards with his wheelchair and laughed, exclaiming "No, don't!"

Do you still feel uncomfortable at this distance?

No.

So why did you stop me?

Cause I figured you were close enough and if you walk you're gonna hurt my leg. Okay, walk, keep coming if you want to. *(Researcher proceeded forward until touching the wheelchair.)* Doesn't matter to me.

Repeat-Very Uncomfortable

(Les) Jeff, why did you look at the floor rather than Anita to decide she was too close. You've done it quite a few times now. You start out with your arms waiting for her and than she gets closer and you sit back and than you look at the floor to decide that she is too close.

Ooh no, I did that after I said stop.

(Les) Looked at the floor after you said stop?

Yea.

(Les) You felt that this was after? You felt you weren't conscious of looking at the floor first?

(Long silence)

Repeat, to Observe When the Subject Begins to Glance at the Floor

I wonder Jeff, when I get, when I am walking towards you and getting closer, okay? Are you, when you estimate the distance between us, do you look, are you concerned about where my feet are or where my, where the rest of my body is?

Where all of you is, yea. Well your foot can be way there you know and your body can be up here, it doesn't matter.

(Les) Did you notice yourself looking at the floor again before you said stop? You actually checked the floor several times.

Yea, well that's how I watch.

(Guardian) I think what Jeff is looking at is to see how close her feet come to the wheelchair. She can only take one step further.

Right.

Before hitting the chair he wants her to stop because, I think is only that close only on that side of the chair.

That's right.

During the subsequent approaches, the subject was required to turn left and right and stop researcher when feeling very uncomfortable. He laughed all the time, making comments like "This time I am not gonna stop you at all, you will walk all over me" etc. He also checked continuously with the guardian.

Were you at all concerned about your leg this time?

No, not really.

Did you feel any fantasy about your leg?

No.

Why did you check the floor again?

I just wanted to know how close you were and I saw you only about three inches.

So you had to check the floor to see how far I was from you.

Yea.

What were you feeling as I was walking towards you?

All right.

Why did you stop me?

I know I shouldn't have *(laughter.)* Well, I figured that's close enough. I didn't want you to go much further because I didn't want you to hit yourself.

Were you worried that I might hit myself or that I would hit you?

Both.

Which was stronger feeling, fear of me hurting myself or fear ...

Yea, of you hurting yourself.

(Les) Jeff, what would happen if Anita touched your chair a few times? Would it bother you? It would bother you if she touched your chair?

Yea.

(Les) Is the chair very much part of you? When you say, "you'll hit me", you really mean you'll hit my chair.

Yea.

(Les) So it would bother you if she did touch your chair even though it might not hurt her.

Yea.

(*Les touched the subject's wheelchair a few times, asking "does it hurt? The response was "yes".)*

(Les) "It's pretty hard, if anything it's pretty hard.

Yea.

(Les) So if she did bump into your chair, she wouldn't really hurt herself.

No.

(Les) What is it about the chair that worries you, which doesn't allow you to let me touch it?

Nothing really,****** that I get hit.

(Les) What is it about this leg that you are protecting so much.

It hurts.

(Les) What about the other leg?

It feels all right

Roles Switched - Slightly Uncomfortable

Do you feel more comfortable when you move towards me or when I move towards you?

About the same, all right.

But you come closer to me than you allowed me to come.

Ooh no, I didn't.

Why did you let me come closer this time than at the very beginning? You remember, before we did that you always checked the floor and you stopped me about a foot away from your wheelchair. This time you let me come closer, why?

No.

Do you feel better now?

I feel all right.

Subject then repeatedly said "Come on over here to me".

(Guardian) "Something about going to your room".

No, no I didn't say that.

(Les) I want to ask you Jeff, I've noticed that my impression of you has changed very, very much. Essentially because I've never heard you talk so much. I've noticed when you are among the other people, you have talked and expressed yourself really well and you seem to be really free and comfortable with your speaking.

(Guardian) He is very comfortable with me here so I was beginning to wonder. He feels safe with me, if you notice, he is always checking with me.

Yea.

Further comments by the guardian pertained to Jeff's attitude towards women. She noticed that he feels more comfortable around females whom he calls "sweethearts". She further mentioned that Jeff is very protective of space around and watches everyone around him to prevent them from touching his wheelchair.

Les - Frontal Approach With Les Toward Jeff - Slightly Uncomfortable

(Les) Could you put your arms around me just like you were around Anita?

No.

(Les) You put your arms out.

Yes I know, but Anita is a girl and I feel comfortable in that sense. A guy coming that way, no way, I am not that way at all.

(Les) So you are just teasing.

Teasing.

(Les) Teasing about how you felt.

Yea, right.

During the repeats, the subject again "teased" Les by calling him sweetheart, and making "welcome gestures towards him". He also laughed and when asked, admitted not remembering the beginning of the experiment and any of the devices used for the initial tests. Later when the guardian was asked to leave, Jeff's reactions to Les, and his level of comfort remained the same. He admitted to always being relaxed around people.

18. SUBJECT NO. B16 - DONALD

Frontal Approach - Slightly Uncomfortable

During the approach, the subject said, " I like you, maybe you're gonna kiss me, I am honest with myself".

Why didn't you let me come closer this time?

Big question, I don't know. I am honest with myself first and, uhm, I don't know.

But what was it that actually made you say stop?

Uhm, I don't like people to stand too close to me, except women of course, but there again, I am not really comfortable if I think they come too close to me.

You don't feel comfortable?

No, very uncomfortable, unless I know them and I like them, that's different.

The first time I walked towards you you let me come quite, quite a bit closer than you did the last time. Why was it?

Good question (uhm). I don't know you for one thing and the second time, as I say, I feel very uncomfortable with people too close to me. Very, why, I don't know why. That's just the way I feel.

The subject didn't know how to answer to the next three questions about his feelings during the approach.

This feeling that you have, where does it come from, from inside or from outside?

Inside.

From inside. What about before I began to walk towards you. I was standing right here *(researcher positioned herself on the mark indicating the previous halting point),* **that before I began to walk towards you, what did you feel?**

Kind of funny.

Funny?

Yea, weird, I don't know why. That's the way I feel .

Even before I moved?

Even before you moved.

The subject answered the next set of questions pertaining to his feelings at various points of the approach, "I don't know, I've got to be honest with myself".

What about after you said stop.

I don't know why, I just said it.

But after you said it, okay? And I stopped, did you feel any different than before?

No ****.

But what happened, you stopped me at this distance, you stopped me right here. You feel uncomfortable?

Uncomfortable? No. I feel comfortable.

After the approach, the subject was instructed to recall his thoughts and feelings during the actual approach.

One more question. This feeling that you have, okay? When I get closer to you, is it a bad feeling, a good feeling, or what kind of feeling?

(Long silence) I don't know you too well, so it can't be a bad feeling. It's not great, it's in-between.

Are you afraid of me?

Why should I be? I don't know you.

What would happen if I came much closer to you?

You would kiss me.

Would you like that?

Yes, I would try it anyway and I might like it and I might not like it.

Okay, so you are not sure if you would like it or not.

Right.

Left Angle Approach - Slightly Uncomfortable

I am wondering why you let me come so much closer this time than you did before.

I don't know, I can see you are a woman and I like you. I don't know you but that's beside the point.

Okay, but you realize that this time you let me come much closer than you did the first time.

Yes, I do and on the side, along the side it's different, and back it's different too.

Is it?

To me it is.

How?

I like people come to me close in the front but side I don't mind, the back****it's different too.

So what do you feel when I come from the side?

See, I can defend myself on this side but in the front, I can't. I can't use my hand or I would knock over myself.

I see. Is that something that is consciously in your mind?

Yea, very much so. I'm not gonna fight it or, or run away from it.

Repeat-Left Angle Approach - Slightly Uncomfortable

Why didn't you let me come as close as you did before?

I don't know but I didn't. It's kind of stupid question but I just didn't.

Did you feel any different?

No.

You cannot tell why.

I am not gonna say it***** but I don't know why.

You remember the last time I walked towards you and you stopped me closer? As I was walking towards you, what did you, were you thinking about something else?

(Laughter) No, no, I just, I was thinking about my girlfriend that I had a long time ago. I'm not married and won't be.

As I was walking towards you, you were thinking about your girlfriend?

I was, yea .

What were you thinking about this time?

I don't know. Good question. I don't know.

Did you think about your girlfriend too, as well, or you didn't?

I didn't.

And what were you thinking about, about this girlfriend?

(Laughter) I liked her but I didn't like her old man so I backed up from marrying her******, so I backed up. I liked the girl but I didn't like the old man, so I backed up ****.

Because of him.

Yea, because I don't like the old man***** he made it hell.

What did she look like, this girlfriend? Was she, what was she like?

She weren't very tall, she was redhead and I think she was French as I am French. I don't know, I just didn't marry her, that's all.

Repeat

(Subject) It's kind of stupid.

You still feel uncomfortable at this distance?

Quite comfortable.

Do you think you would let me come closer?

Yes, I would.

So why did you stop me?

I just thought I better.

You wanted to stop me?

That's right.

I am wondering. Are you right handed or left handed?

I am both, but I am more or less right handed.

And your both eyes, can you see equally well with your both eyes?

Yes, no. I've got cataract in my right eye.

So your right eye is your weaker eye.

Very much so.

And can you hear well on both sides, or one side is better than the other?

My left side is better.

Is it after the accident, or

I imagine so.

Can you hear at all in your left ear? Do you have a sense of hearing in one ear?

I do, yes. I've got problem with my right, my right ear.

Is it a lot of problems? Can you hear anything through your right?

Ooh, I can hear, but I hear on my left side.

Which side were you hit during your accident?

I don't know *(laughter)*, well I am***** in my right leg. I might have been hit on my right side .

But you don't remember.

No, I woke up in the hospital.

Right Side Approach - Slightly Uncomfortable

Did you see me clearly?

I've got problem with my, my right eye. I've got a cataract in it.

You still feel uncomfortable at this distance?

No *(laughter)*.

Can you describe what you were thinking or feeling just before you asked me to stop?

No, I can't****. I can't say. I don't know.

Did you feel any different when I was walking towards you from this side than from the other side?

Yes, uhm, my, I can see better from my left side than from my right side.

Okay.

Since I got hit from this side. Since then I've been left handed more than right handed. Since then I did more work with my left than my right****.

Okay.

And I do lot of the work with my left and ***** I've.

Okay.

I've always been right handed but now I use my left side more.

As I was walking towards you, did you feel, were you aware at all that this side was your weaker side?

I, I, I knew that before, that this side was my weaker side.

Okay, but as I was walking towards you, getting closer, did it cross your mind?

It did.

And is that why you stopped me?

No, I just wanted to.

Right Angle Approach - Slightly Uncomfortable

Did you feel any different when I was moving towards you from this angle than from the side?

Like I said, my right hand side is my poorer side, very different **** .

Repeat

Did you feel any different when I was moving from this side than from the other side?

Yes, I feel more fluid, more comfortable on my left hand side than I am on my right hand side. I am more left handed now than I am right handed **** I write with my right hand ****. It's weird.

Why didn't you let me come closer this time?

I don't know.

The subject answered the next set of questions with a statement "It's a stupid question. I don't understand it. I don't understand myself".

Subject Turned Left - Very Uncomfortable

Okay, can you describe what you were feeling just before you asked me to stop?

No, I can't, because I don't know.

Okay, what were you thinking about?

(Laughter) I don't know. I just don't know.

Were you thinking about your girlfriend again?

Yes, I was at a point.

See? So you can remember what you were thinking about. You are just not telling me. So why did you stop me?

Again, I don't know.

Did you wait for the right time to say stop?

(Laughter) No, I just knew it myself, I just knew it myself **** I've got a mind of my own, that's all.

So what did you experience just as you said stop?

I can't explain it, I don't know.

After I stopped, did you feel any different than when I was moving towards you?

No, I can't explain. I don't know.

After I stopped, did you feel any different than when I was moving towards you?

No.

Subject Turned Left - Very Uncomfortable

Was it different for you when I walked towards you this way than when you were turned the other way?

Yes.

How different?

Don't ask me why, but different.

But why, how different, you feel better when I walk from this way then when you are turned the other way?

When I am turned the other way.

When you are turned, why is that?

I don't know, since the accident my left side than my right hand side is completely numb.

You feel numb?

Yea, my right side feels completely numb.

Is it numb now too?

It always is.

Always is.

Because I broke my leg and had problems with my right side than my left side. I knew that when I was born and raised that I was right handed. I still am. I can't write with my left hand. I find myself doing more stuff now with my left hand than with my right hand side.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you stopped me?

No, I've got to be honest with myself. The answer is no .

The subject could not answer the next three questions pertaining to his experiences during the repeats of frontal approaches.

So sometimes, do you feel sometimes that you can let me come closer and sometimes you don't.

Right.

This feeling that you have, it must be some kind of a feeling, yea?

I guess it's a feeling. I don't know what feeling it is, but that's okay.

It comes at different rates.

Right, at different times too.

You had that feeling right now? *(experimenter walked towards the subject and stopped at a distance of 1 foot from the subject).*

No, stop about there, right there, the same distance.

You have that feeling right now? *(experimenter walked towards the subject and stopped where she stopped before).*

(Laughter) Yes, I do.

Is it stronger?

No.

Is it the same?*(experimenter walked towards the subject once again).*

Yea, stop, feeling is the same. Anyway, I don't want you to come any closer.

Roles Switched

Do you still feel uncomfortable at this distance?

No ****.

Do you feel you could come closer than that?

Very much so, I wouldn't.

Why not?

Because you are too young.

You feel you could, but you

I could but I won't do it.

Are you worried what I might think or are you concerned about your feelings.

Yea, I'm worried what you might think.

What I am going to think.

Yea, my feeling doesn't matter*****.

What are your feelings? Forget about mine, think about yours.

(Laughter) Right now they're neutral, not.

Okay, as you were walking towards me and getting closer, were they neutral as well?

Neutral when I stopped.

Repeat

Subject was instructed to focus on his own feelings during the approach.

Were you still thinking about what I might think?

No.

So what were your feelings?

(Laughter) Neutral.

So why didn't you come closer?

I don't know, I just did.

Do I look like a friendly person?

Yes. And then women are very different than men for some reason because they are double crossing.

You mean women are not straight forward?

Yea, I am not saying it, you know, I, I've been double crossed before and I don't like to let that happen again, especially by a woman. By men too, I've got to be careful.

Do you feel more comfortable when I walk towards you or when you walk towards me?

I'd be more comfortable when I walk towards you because I can stop when I want to. Nobody tells me when to stop. I stop when I want..

Do you feel more comfortable standing here still?

No, I feel comfortable.

Frontal Approach By Les - Slightly Uncomfortable

(Less) Do you feel there is any difference between when I do it and when Anita does it?

Yes, a male and a female, they are not the same, they do not feel the same. Why? I don't know.

19. SUBJECT NO. B17 - BETTY

Frontal Approach - Slightly Uncomfortable

Can you tell me what you were thinking about or experiencing as I was walking towards you?

Uhm, I am not really sure, not really excited, not really calm I guess, I just, that's it.

Can you tell me what you were thinking or experiencing just before you said stop, just right before you said it.

Uhm, I, I am not really nnot, not, nothing. I am not easy for, excited, I was just, a calmness, uhm, so, I just don't know.

What made you say stop, why did you stop me?

*****.

Okay, did you feel I was too close?

No, but not far apart either.

Is that how far you normally keep people?

That's right, mhm, mhm, and I don't know why.

This thing that made you say stop, was it a physical feeling or was it......?

A mental, a mental thing. I'm, I'm not really sure but I'm just not, that's it.

Okay, so what were your feelings after you said stop?

Nothing, maybe a little bit less comfortable, really calm.

Less comfortable after I stopped?

No, no, the other way around, really calmness.

So you felt better after I stopped?

Right, mhm.

Would you think why?

I don't know, I really don't know.

When you feel you want me to stop, what is this feeling like, what do you feel, what do you want to do?

I, I, I, I just, I don't know either, I, calmness, I guess, I don't really know.

Okay, and what were your feelings before I began too walk towards you?

Little bit excited I think, but not really, you know.

Were you worried?

Not really, I, I just really don't know.

Before I started to walk towards you and you knew I was going to walk towards you, did you wait for the right time to say stop?

Yes, mhm.

And before I started too walk towards you, did you sort of guess how far you'd stop me?

No, not really, well, maybe, yeah. I'm just not really close but not really far either, just comfortable.

But before I started to walk towards you and you looked around, did you sort of know how far you'd stop me?

Yes, mhm, mhm, yes.****************************.

Left Side Approach - Slightly Uncomfortable

The subject mistakenly called her left side, right.

Can you describe what you were feeling or thinking just before you asked me to stop?

Not a thing. Nothing, not really at all.

So why did you stop me.

I just, I'm no, no, not uncomfortable, not excited but not really, not comfortable either. It's just stop, I don't know why.

This feeling of discomfort, was it getting stronger as I was moving?

No, not at all.

So did you have the same feeling before I began to walk?

Yes, mhm.

Like right now, you still have it, you feel that?

Yes, mhm, mhm, not really excited.

Uncomfortable?

Not really at all, it's just, nothing.

Okay, but do you remember the time from the moment I started to walk towards you, to the moment I stopped?

Mhm, yea, I, the steps, to, to, to, to (sound of steps), that's it you know.

That makes you nervous?

Not really, but I, something inside my brain said, just walking you know.

Just walking, this something in your brain, was it getting stronger as I was coming towards you, or not?

Uhm, not, well, I just don't know but I think it's something but I don't know, not uncomfortable.

Okay, what did you experience just as you said stop?

Stop, just not enough, not.

Did it feel good to say stop?

Yes, mhm, mhm, but I don't know why either.

And this discomfort that you had, did it go away?

No, yea, mhm, uhmm.

Once I stopped?

Right.

So how would you describe what made you say stop?

I don't know, I, I really don't know, I just, I, I, it's very hard to tell and I just don't know, not excited or not really calm but it's just normal I think, myself.

Right Side Approach - Slightly Uncomfortable

The subject mistakenly called her right side, left.

What were you feeling or thinking just before you asked me to stop?

Exactly the same as last time. Its just fine, but not, not really, but excited, not really, nothing.

So why wouldn't you let me come closer?

I don't know why, I don't know why.

Okay, did you, was it any different for you when I walked towards you from this side than when I walked from the other, or the same?

Exactly the same.

Right Angle Approach - Slightly Uncomfortable

Doing these repetitions, is it getting easier for you or it's

No, not at all, the same.

Okay, do you still feel uncomfortable when I stand here?

Mhm, and I don't know why.

Are you afraid of me?

No, not at all *(laughter)*.

Would you feel different if I was a male or would it be the same?

No, no, not at all. Men and women are exactly the same.

What about children?

No, worse with children. I just hate children.

You hate children?

I don't know why either. I think I'm scared of it, you know.

Of children?

Right.

What are you scared of?

Picking them up. Before there was no problem at all, but after I'm just so scared of dropping it or playing. You know and I just, I just I am not, hate children, I'm not, but little kids, I am so scared of dropping them or whatever.

Do you allow these little kids to come close to you or you don't feel good about that?

Yea, no, not at all and I don't like crying kids, and whining kids (pause) and happy kids, yes, no problem but far away.

About your preference about keeping people at certain distance, you think it changed after your accident?

It did, I just so afraid of speaking and far away is really good, but not far, far away, but not really close.

And before your accident, how close did you like people to be?

About half of that point, you know, just.

Closer?

Right, exactly.

Frontal Approach - Very Uncomfortable

Can you describe what you were feeling just before you asked me to stop?

Stop, that's all, you know, it's not exciting, it's not really. I'm just not really, that's it, I'm not really comfortable, but I'm not really calm either. It's just normal, I think.

You think you would allow me to come closer?

No, not at all *(laughter)*.

You know why?

I don't know.

What were you feeling just before you asked me to stop?

Really happy, you know, I don't know why either.

You felt happy?

Mhm, mhm.

Are you happy now?

Mhm, mhm.

Is there anything else that you could tell me about the moment you said stop?

Happy, that's all.

After I stopped, did you feel better or worse?

Better, I, I don't really know.

Roles Reversed - Slightly Uncomfortable

Do you still feel uncomfortable at this distance?

Mhm.

Do you feel more comfortable when I walk towards you or when you walk towards me, or it makes no difference?

No, not, no, not really at all, exactly the same thing.

What were you feeling just before you began to walk towards me?

Walking, that's all.

Were you nervous at all?

Nnot really.

Embarrassed or shy, or.

No, no, not at all, uhm, I, not really, you know, I just not really, side by side, you know. It's not really touching and not really far away.

What were you feeling just before you decided to stop?

Walking and stop, you know. It's just not.

And after you stopped, did you feel better?

Yes, yes.

Do you feel that you could come closer than that?

No.

So this was it for you?

Mhm *(laughter)*, that's right.

Can you tell me why you feel uncomfortable standing here?

I really don't know, I just.

(Les) Do you think you are at the same distance you were when Anita was walking towards you?

Not exactly the same, maybe a little bit closer but not very far.

20. SUBJECT NO. B18 - DALE

Frontal Approach - Slightly Uncomfortable

(Comment during the approach) Arms length.

Can you tell me what you were thinking about or experiencing as I was walking towards you?

Nothing, it's your judgment, it's whenever you feel comfortable.

Where I stopped when you stopped me.

Well, it's not, it's when you feel comfortable you can walk closer, I don't think this banging noses together or walking closer.

So why did you stop me?

I don't know, just, like I said no and you'll be uncomfortable.

Did you feel uncomfortable at all?

No, I just, when I talk, I just, shouting, I've done that, I'm used to, that's the way we grew up. If dad wants you, he screams his head up, you come and see what he wants. It was never uneasy. I was comfortable, that's as close as possible. I didn't mind any closer.

Okay, what were you feeling just as you started to say stop?

What was I feeling? Annoyed, more or less annoyed you know, a total stranger, you know, not a total stranger, not a total stranger but someone walking closer and closer, it's just, you gotta be, you gotta make the other person comfortable, you don't have, to me it was never in the books, it was never that I was comfortable enough, it was always the other person****.

But did you stop me where you thought I was feeling comfortable?

Yea, or both of us, or you or me, who knows.

Was it more, were you more concerned about me or about you?

Both, I don't care about me, I am happy as I am. I used to do that, take care of******.

Were you afraid of me?

No.

So how would you describe what made you say stop?

You gotta be realistic about how close each person is. You don't get to focus eyesight to eyesight, you don't. Works better if you're apart than close together. It works most of the time.

Would you feel different if I was a man or would you feel the same?

About the same.

What about if I was a child.

A child? How about a child? Usually mothers don't allow their kids to walk up to the total stranger.

But do you let kids come close?

Yea, my brother's kid, I pick her and throw her up. She enjoys that. Put her in a blanket, grab the corners and swing the blanket. She enjoys that.

Did you, uhm wait for the right time to say stop?

No, there is no time when I'd want to say stop.

So why did you say it?

(Laughter) I, I just said it because you've gotta be comfortable too. I don't know.

Were you comfortable or not?

Yea.

Can you describe what you were feeling just before I began to walk towards you?

How close is she gonna get, more or less.

How close did you think I would get?

I don't know, I really don't. It doesn't bother me. If I am comfortable, the other person is comfortable, that's all that matters.

Left Angle Approach - Slightly Uncomfortable

The subject was instructed to focus on his own feelings, not the experimenter's.

You' ve gotta have a really good conversation, you can't get really close together.

Do you feel less comfortable with me walking towards you from the side than from the front?

Yea.

Why?

Left Side Approach - Slightly Uncomfortable

Can you describe what you were feeling or thinking just before you asked me to stop?

That's a little too close cause we grew up in a different aspect, we, when we wanted something, we shouted out, yelled it out. If you hear something, you listen, when you hear something in the distance. We never bothered to step in close to each other, arms length distance or whenever we were comfortable. It's just, you did because you had to. Total strangers just don't walk up to everybody, taking understanding of what's going on. They don't they don't even try that, they just, it's weird.

Can you tell me what you experienced just as you said stop?

Coming too close, you know, the side to side, front to back, when you're turned like this and, I never liked to do that, never did. It's always face to face.

So you feel less comfortable with me walking towards you from the side than from the front.

Yea.

Why?

Who knows. It's all girls, I guess. I don't know, I'm just more comfortable when you're face to face, trying to strike out some conversation, side to side or front to back. It's much easier just face to face, arm length apart.

You feel that you let people closer from the front than you let them from the side?

Yea.

So how would you describe what made you say stop?

When I'm comfortable, I don't like, that's not very comfortable.

This feeling of discomfort that you have, okay? Is it something in your head, or is it something that you feel physically?

No. I feel it's not in my head, just you've gotta have your distance. I've gotta have my distance.

But how do you know that you have a distance, what happens to you?

You get disoriented and your head, your blood start to pump, heart rate goes up.

That's what you felt.

No, I just keep the distance.

Did you do a lot of street fighting?

No, no, just a few.

Right Side Approach - Slightly Uncomfortable

The subject reported not being able to turn his head. He also said that he had an operation to correct the muscle alignment in the left eye. As a result he cannot see very well with this eye.

Can you describe what you were feeling just before you me to asked stop?

Uncomfortable, I don't like people very close. I don't mind them close, but not right close.

Was it different for you when I walked towards you from this side than from the other side?

No, the same.

Frontal Approach - Very Uncomfortable

Can you tell me what you were feeling just before you asked me to stop?

A little bit uncomfortable.

Why?

Who knows, I just feel uncomfortable, I just, it's everything, where I grew up. You want something, you scream, holler. You can talk nice at a short, short distance or scream it out when you, it's not very hard.

So did you feel I was close enough for a conversation?

Too close, too close.

So what were you feeling just before you decided to stop me?

Ooh, I, I didn't have to. It, it is uncomfortable when you're further apart or four feet apart, 6 feet apart, you know you can have a good conversation, understand each other, and too close, it's not easy, it's harder.

What makes it harder?

Ooh, I, I don't want, nothing actually, it's just, you gotta have a discrepancy of ages, times, uhm, how close total strangers, you've gotta have some discrepancy.

What did you experience just as you said stop?

It's uncomfortable, it's too close.

As I was getting closer to you, did this feeling of discomfort get stronger?

Yea, and when, you backed off, it's okay.

What about when I stopped, did you feel more comfortable when I stopped? Did not move towards you but was standing.

Yea.

Roles Switched - Slightly Uncomfortable

Do you still feel uncomfortable at this distance?
No, I just, you gotta have some discrepancy how far you can get, you know. It's a long story.
Would you feel uncomfortable if you got closer?
Yea.
You feel more comfortable when I walk towards you or when you walk towards me, or no difference.
I feel more comfortable when it's me walking towards you. This way I can stop when I'm getting, uhm, uncomfortable, or.
You feel you have more control this way?

Yea.
Can you explain what makes it uncomfortable for you?
I don't know *(laughter)*.
What were you feeling just before you began to walk towards me?
Nothing, I was just doing what I was told.
Nothing?
Nothing.

APPENDIX C - LETTER OF CONSENT

RESEARCH TITLE: - MEASUREMENT OF PERSONAL SPACE OF THE BRAIN INJURED

RESEARCH DIRECTORS: - Anita Bennett B.A. and Leslie Hayduk Ph.D.

THIS LETTER OF CONSENT IS TO BE READ TO PARTICIPANT AND THEN GIVEN TO PARTICIPANT TO BE SIGNED TO CONFIRM THE AGREEMENT.

Dear Participant,

You are kindly requested to participate in a study I am doing as part of my requirements for my Master of Arts Degree in Sociology at the University of Alberta. You were selected to participate in this experiment because you have sustained a specific head injury which may be able to assist us in learning about human spatial behaviour.

The research does not involve administration of any chemical substances or deception, and **you can stop participating any time you wish even if you sign this consent form** indicating your willingness to participate. **If**, at the end of the experiment, **you decide that you do not wish your data to be used, just tell me and your data will be destroyed.**

You will be asked to participate in several tasks. First, you will be asked a few background questions, then you will be given a map of a few city blocks on which a route, including a series of turns, has been drawn. You will imagine you are walking along the path and try to tell me which direction you would be turning at each corner. After that, you will be asked to name six body parts such as "left arm" or "right leg", when I point to them on a picture, or to point your own "left arm" when I name it.

Your next task will be to estimate a few distances. You will be asked to sit at the head of a table. I will place a small block on the table and you will try to estimate how far the block on the table is from you. We will do this ten times.

Finally, several measurements of personal space will be made. You will be asked to stand, while the researcher walks towards you. When you feel slightly or very uncomfortable about her closeness, you will simply say "stop" and I will stop and measure the distance between us. You will also be asked to estimate the distance remaining between us. **I will not touch you**, I will just walk towards you until you tell me to stop.

The experimental part of the study concludes with a few questions about your general impressions of the study and the experimental room. We will be tape-recording the entire experiment to provide a permanent record and to save time in recording your answers. The recording of the experiment will be destroyed on the day of my oral defence of the thesis. My thesis advisor, Dr. Hayduk, will be present while we gather all the preceding measurements.

Your consent to participate will also allow us to look at your medical records to determine the nature and extent of your brain injury and any psychological or spatial test scores you might have.

All this information will be kept strictly confidential and your name will not appear anywhere in my thesis or in any publication. After the completion of the study, we will make sure that you get a summary of results, if you wish.

Your participation in this project will be greatly appreciated.

Anita Bennett M.A. Student

I understand the conditions of the study and agree to participate to the best of my ability.

Participant's Signature: ____________________

Date: ______________

APPENDIX D - EXPERIMENTAL PROCEDURE

(After an initial exchange of greetings and signing of the consent form the researcher says:)

Before we begin the experiment I will briefly explain what we will be doing. First, I will ask you some general questions about how you feel when standing around with other people in various situations. Next, I will show you a map of a few city blocks on which a route has been drawn. You will imagine that you are walking along the path and tell me if you are making a left or a right turn at each corner. I will explain this in more detail when we are ready to start. I will also ask you to name and point to some of your body parts, such as your head. When we finish doing this I will ask you to sit at the head of this table *(researcher points towards the table)* on which I will put this small block. I will ask you to estimate how far the small block is from you. We will do this ten times.

Finally we will try to find out how you feel about my presence at various places around you. I will walk towards you until you tell me to stop when you begin to feel uncomfortable about me being too close to you. We will try several measures like this, sometimes changing the direction of approach, the level of discomfort you feel, and whether you or I act as the approaching person. I will ask you a few questions about how you felt about each approach.

All the proceedings will be tape-recorded. Only myself and my thesis committee will have access to this tape. Your name will not appear on the tape or in my thesis. If you don't want to take part in this study you are free to withdraw at any time.

When we are all done I will give you another chance to say you do not want your data to be used in my study. Do you want to proceed with the study or would you like to stop and not do it?

Proceed ________

Stop ________

To begin, I will ask you some questions about yourself and about how comfortable you feel around other people. You can take as much time as you want to answer the questions, and if you want me to repeat or explain any questions just let me know.

Okay, here is the first question. *(Answer categories will be read to subjects.)*

Can you tell me how old you are? ________ *years*

Are you a male or a female? *(Question asked only when the researcher has doubts about the sex of the subject.)*

Male ________

Female ________

Do you have difficulties sleeping at night?

Yes ________

No ________

What is the nature of your difficulties?

____

How often do you suffer from headaches?

Everyday ________

Few times a week ________

Few times a month ________

Less than once a month ________

Never ________

Are your headaches usually severe or mild?

Very severe ________

Severe ________

Moderate ________

Mild ________

No response ________

When you have a headache, how long does it usually last?

The whole day ________

A couple of hours ________

Few minutes ________

Other ________

No response ________

Do you enjoy meeting new people?

Yes-a lot ________

Yes-a little ________

No-dislike a little ________

No-dislike a lot ________

Don't know ________

No response ________

Thank you. Here is the second question. Is it easy for you to start a conversation with someone that you just met?

Very easy ________

Quite easy ________

Quite hard ________

Very hard ________

Don't know/no response ________

Why is it hard? *(Question asked in the case of subject responding "Quite hard", or "Very hard".)*

____

____

Are you shy with strangers?

Yes ________

No ________

How often do you feel uncomfortable while talking to a stranger because you feel that he stands too close to you?

Almost always ________

Almost every time I stand around with a stranger ________

Often or usually ________

Sometimes or rarely ________

Never ________

Don't know/no response ________

Do you feel uneasy if many people crowd close to you in an elevator in a lineup?

Always, almost every time I am in such situation ________

Often or usually ________

Sometimes or rarely ________

Never, it makes no difference to me ________

Don't know/no response ________

Generally, when you are talking with someone you know, how close do you like them to stand?

Closer than arms reach ________

Beyond arms reach ________

At arms reach ________

Don't know/no response ________

Imagine that you are at a museum and a nice stranger starts talking to you. How close would you like that person to stand from you?

Closer than arms reach ________

At arms reach ________

Beyond arms reach ________

Don't know/no response ________

Can you describe how far an "arms reach" is for you?

____

____

Now we will do something different. Here is a map of a few city blocks *(researcher shows the map to a subject)*. There is a red path drawn between these blocks. Imagine that you are walking along the red path between the blocks **starting from point A and going to point B**

(Researcher points to those on the map.) I will point to where you are on this path and when I come to a corner, please tell me whether you will be making a **left or a right turn**.

Do you understand what I am asking you to do? Do you have any questions? *(Researcher answers all questions.)* Are you ready to start? *(Researcher follows the path, stops at each corner and asks "which way are you about to turn"?)*

Corner 1	Correct	________	Error	________
Corner 2	Correct	________	Error	________
Corner 3	Correct	________	Error	________
Corner 4	Correct	________	Error	________
Corner 5	Correct	________	Error	________

That's fine. Here is a line drawing of a person. *(Researcher presents subject with a drawing of a human body.)* Some parts of that person's body are numbered. Please tell me which body part these numbers correspond to. For example, #1 is by a person's left arm. If you know this is an arm, but you do not know whether it is left or right, just tell me. **Do not guess** if you don't know, just tell me you don't know.

Okay, what body part is by #2? *(This procedure is repeated for 3 left and 3 right body parts.)*

Left arm	Correct	________	Error	________	Don't Know	________
Right armCorrect		________	Error	________	Don't Know	________
Left leg	Correct	________	Error	________	Don't Know	________
Right eye Correct		________	Error	________	Don't Know	________
Left arm	Correct	________	Error	________	Don't Know	________
Right ear	Correct	________	Error	________	Don't Know	________
Left eye	Correct	________	Error	________	Don't Know	________

Now I would like you to point to the part of your body which I will name. For example if I ask "where is your nose", you should point like this *(researcher demonstrates)*. Do you understand what we will be doing ? Okay, where is your:

Right arm Correct _______ Error _______

Left arm Correct _______ Error _______

Right leg Correct _______ Error _______

Left leg Correct _______ Error _______

Right ear Correct _______ Error _______

Left ear Correct _______ Error _______

Fine, now I will ask you to estimate a few distances. Please sit at the head of this table. *(Researcher points at the table.)* On the table you see a block. I will move this block to a spot somewhere along the centre line of the table, and I want you to try to estimate how far you think the closest side of the block is from the end of the table where you are sitting. Try to be as accurate as possible but do not worry about making mistakes, no one can do this perfectly. Do you understand what you have to do?

Okay, **I am going to use this shield to keep you from seeing the block for a few seconds as I put it in the first position.** *(Researcher places shield in front of the subject, moves the block 90 cm. from the edge of the table by which the subject is sitting and removes the shield).*

Okay, how many inches or centimeters *(whichever you prefer)* is the block from **your** end of the table?

Subject's estimation (at 90 cm) _______cm _______in.

The procedure is repeated for:

Subject's estimation (at 30cm.) _______cm _______in.

Subject's estimation (at 120cm.) _______cm _______in.

Subject's estimation (at 60cm.) _______cm _______in.

Subject's estimation (at 150cm.) _______cm _______in.

Subject's estimation (at 120 cm.) _______cm _______in.

Subject's estimation (at 30 cm.) _______cm _______in.

Subject's estimation (at 90 cm) _______cm _______in.

Subject's estimation (at 150 cm.) _______cm _______in.

Subject's estimation (at 60 cm.) _______cm _______in.

Fine, now will try to determine your actual spatial preferences. Please come here and stand over the red dot like this with your toes touching the black line *(researcher momentarily stands over the red dot then moves to a position 2 metres in front of subject).*

I am going to walk slowly towards you until you **begin to feel slightly uncomfortable about me being too close to you.** I want you to say stop when you just begin to feel slightly uncomfortable about me being too close. I will walk towards you, and all you have to do is to say **stop** when you just begin to feel that I am getting a little too close to you.

Look straight at me, and let your arms hang loosely at your side. *(Researcher corrects posturing as necessary.)* As soon as you say **stop** I will stop, measure the distance, and then come back here where I am now. Do you have any questions? *(Researcher answers all questions.)*

Lets try a practice approach first, so that you get a feel of this. Remember, tell me to stop **when you just begin to feel uncomfortable** about my closeness. Are you ready? *(Researcher stands two metres from subject.)* Okay, here I come. *(Researcher walks slowly, eyes focused on subject's chin line, hands at side, then records the distance and returns.)*

Stop distance ________cm

Now that you have the idea lets try the same thing again. Say stop **when you just begin to feel uncomfortable** about my closeness. Are you ready? *(The procedure is repeated).*

Stop distance ________cm

I will now try this again, but when I have stopped, I would like you to guess **exactly** how far I am from you. I will ask you to guess how many inches, or centimeters, whichever you prefer, my nose is from your nose. Okay, are you ready? *(Researcher walks towards subject.)*

How far do you think my nose is from your nose?

Estimated distance ________cm ________in.

Measured stop distance ________cm.

Can you tell me what you were thinking about or experiencing as I was walking towards you?

____

____

____

Can you describe what you were feeling just as you started to say stop?

____

____

Can you describe what you were feeling just after you said stop?

How would you describe what made you say stop?

Did you wait for the right time to say stop?

Can you tell me why you feel uncomfortable when I get this close?

Can you describe your feelings before I began to walk towards you?

Now, **try to remember as I was walking towards you**, and tell me if there is **anything else** that you thought about that you have not told me?

Okay, this time I will walk towards you at an angle from the front left. Again, just say stop **when you just begin to feel slightly uncomfortable about my closeness.** Turn your head so that you are looking directly at me, but leave your shoulders where they were before. I begin *(researcher walks towards subject).* How far do you think my nose is from your nose?

Estimated distance ________cm ________in.

Measured stop distance ________cm.

Did you see me clearly as I was walking towards you?

Yes ________

No ________

Before I try another approach, I would like you to estimate how far you think I am standing from you? *(Actual distance 2.0 metres)*

Estimated distance ________cm. ______in.

Okay, now I will walk towards you from the **same side** again. As before, tell me to stop when you **just begin to feel slightly uncomfortable** about my closeness. Are you ready? (*researcher walks)*

Estimated distance ________cm. ______in.

Are you ready I begin *(researcher walks).* How far do you think my nose is from your nose?

Estimated distance ________cm. ________in.

Measured stop distance ________cm.

Did you see me clearly as I was walking towards you?

Yes ________

No ________

Okay, this time I will walk towards you from the side. *(Researcher purposely does not name the side.)* Again, just say stop **when you just begin to feel uncomfortable** about my closeness. *(Researcher assumes position 2 metres away at subject's **left side.**)*

Turn your head so you are looking directly at me, but leave your shoulders where they were before. I begin *(researcher walks towards subject).* How far do you think my nose is from your nose?

Estimated distance ________cm ________in.

Measured stop distance ________cm.

Was I walking towards you from your left or right?

Left - Correct response ________ Error ________

Right - Correct response ________ Error ________

Did you see me clearly as I was walking towards you?

Yes ________

No ________

Can you describe what you were feeling and thinking just before you asked me to stop?

____

____

____

____

Can you describe what you experienced just as you said stop?

____

____

____

____

How would you describe what made you say stop?

____

____

____

____

Okay, now I will walk towards you from your other side *(researcher assumes position 2 metres away at subject's **right side**)*. As usual, please stop me when **you just begin to feel uncomfortable** about me being too close to you. Are you ready? Okay. How far do you think my nose is from your nose?

Estimated distance ________cm ________in.

Measured stop distance ________cm.

Was I walking towards you from your left or from your right?

Right - Correct response _________ Error _______

Left - Correct response _________ Error _______

Could you see me clearly as I was walking towards you?

Yes _______

No _______

Can you describe what you were feeling or thinking just before you asked me to stop?

____

____

____

Did you feel any different when I was moving towards you from this side than when I came from the other side? What was the difference? *(Question asked only in case of subject reporting that he felt the difference.)*

____

____

Okay, now I will walk towards you from the **an angle again.** Before I start can you tell me how far you think my nose is from your nose? *(Actual distance 2.0 metres)*

Estimated distance _______cm. ______in.

As usual , please stop me when you **just begin to feel** slightly uncomfortable about my closeness. Okay, *(researcher walks towards the subject).* How far do you think my nose is from your nose?

Estimated distance _______cm. _______in.

Measured stop distance _______cm.

Could you see me clearly as I was walking towards you?

Yes _______

No _______

Okay, now we will do **the same thing again**. Are you ready? How far do you think my nose is from your nose?

Estimated distance ________cm. ________in.

Measured stop distance ________cm.

Okay, now I will walk towards you from the front again but instead of looking directly at me, please turn your head to your left. Leave your arms where they were before and just turn your head. Please stop me when **you begin to feel very uncomfortable about my closeness**. Do you understand what I am asking you to do?

Are you ready? Okay, here I come. How far do you think my nose is from your nose?

Estimated distance ________cm. ________in.

Measured stop distance ________cm.

Now we will do the same thing, except that **you will turn your head to your right.** Stop me when **you begin to feel very uncomfortable about my closeness**. Are you ready? Okay, here I come. How far do you think my nose is from your nose?

Estimated distance ________cm. ________in.

Measured stop distance ________cm.

Okay, now I will walk towards you from the front again, but this time I want you to stop me when **you begin to feel very uncomfortable** about my closeness. If you do not say stop, I will stop just before I touch you, but I will get **very** close. I practiced doing this.

Okay, just say stop when you **feel very uncomfortable about my closeness**, that is until you definitely do not want me to get any closer. Are you all set? *(Researcher approaches from 2 metres).*

How far do you think my nose is from your nose?

Estimated distance ________cm. ________in.

Measured stop distance ________cm.

Can you describe what you were feeling just before you asked me to stop?

____

____

How about just before you decided to stop?

____

____

Can you tell me anything further about what you experienced just as you said stop?

____

____

____

Now we will repeat what we did at the very beginning to see if your spatial preference has changed. I will walk towards you until you **just begin to feel slightly uncomfortable** about my closeness.

Are you ready? **Say stop when you just begin to feel slightly uncomfortable about me being too close to you**.

Measured stop distance ________cm.

Now we will switch roles. I will stand where you are standing and **I would like you to walk towards me from the front**.

Please stand here *(researcher directs subject to the 2 metre spot, researcher positions self on red dot facing subject).*

Just walk towards me **until you begin to feel slightly uncomfortable** about being too close to me, then stop and stand still. Start when you are ready. Look straight at me and walk slowly.

Are you all set? *(Subject walks towards researcher.)*

Okay, how far do you think my nose is from your nose?

Estimated stop distance ________cm. ________in.

Measured distance ________cm.

Can you describe what were you thinking or feeling **just before you began** to walk towards me?

____

____

How about just before you decided to stop?

____

____

Do you feel more comfortable when I walk towards you or when you walk towards me?

When subject approaching ________

When experimenter approaching ________

No difference ________

Do you still feel slightly uncomfortable at this distance?

Yes ________

No ________

If "yes", can you explain why you feel uncomfortable standing right here?

____

____

____

All right, this concludes this part of the experiment *(Researcher and subject sit down.)* Now I will ask you some questions about how you feel about what we have been doing. If you cannot answer, just tell me.

Okay, here is the first question. Did you feel relaxed or tense during the experiment?

Relaxed ________

Tense ________

Did you find what we were doing here interesting or rather boring?

Interesting ________

Boring ________

Did the presence of the third person in the room reassure or bother you in any way?

____

____

____

____

What is your general impression of this room?

Is there anything that you particularly disliked about the experiment?

Is there anything else that you would like to say about everything we did today?

Okay, this is all for today. I want to thank you sincerely for helping me with my study. I really appreciate you giving me your time. Is it okay with you if I use your data, or would you like me to destroy it?

Use ________

Destroy ________

Would you like to receive a summary of the results of this study?

Yes ________

No ________

APPENDIX E - FIGURES

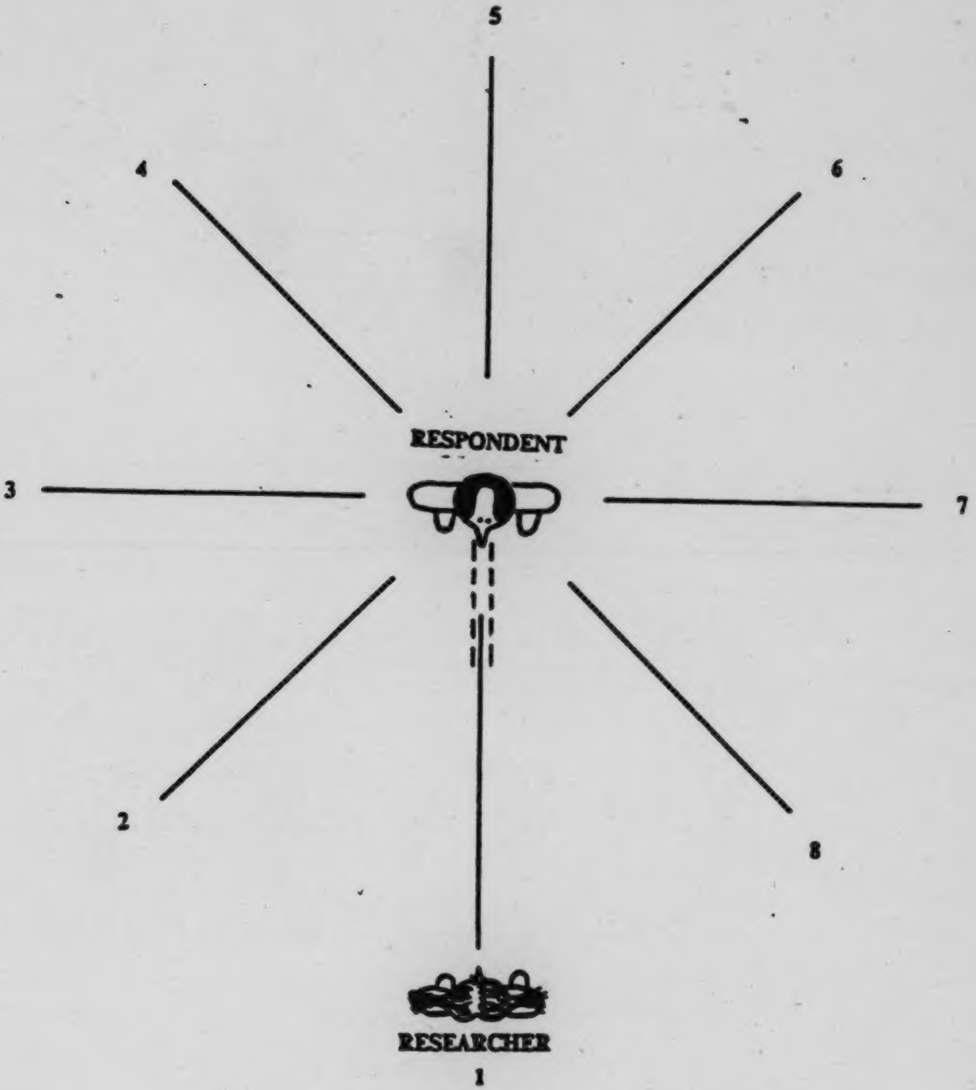
5
4
6
RESPONDENT
3
7
2
8
RESEARCHER
1

Figure 1.0 Frontal Personal Space Measurement Test (only directions 1, 2, 3, 7, and 8 were used)

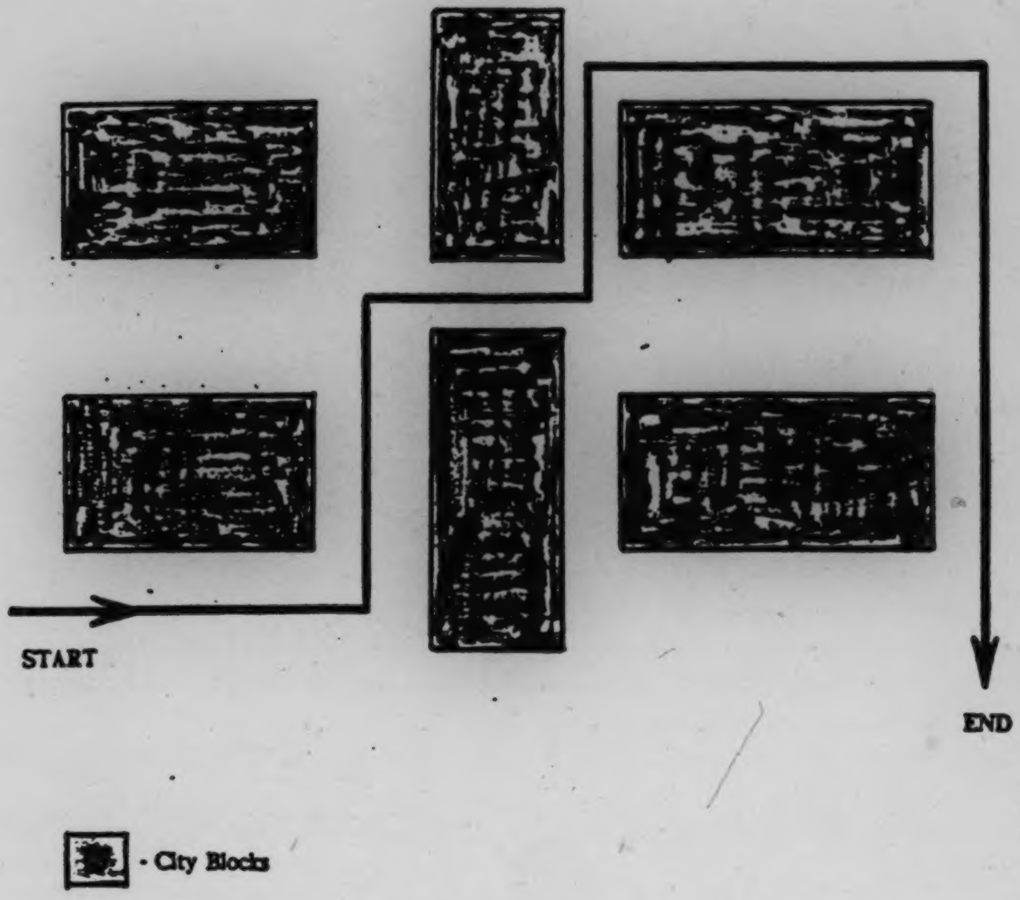
START
END
- City Blocks

Figure 2.0 Road Map Test of Directional Sense

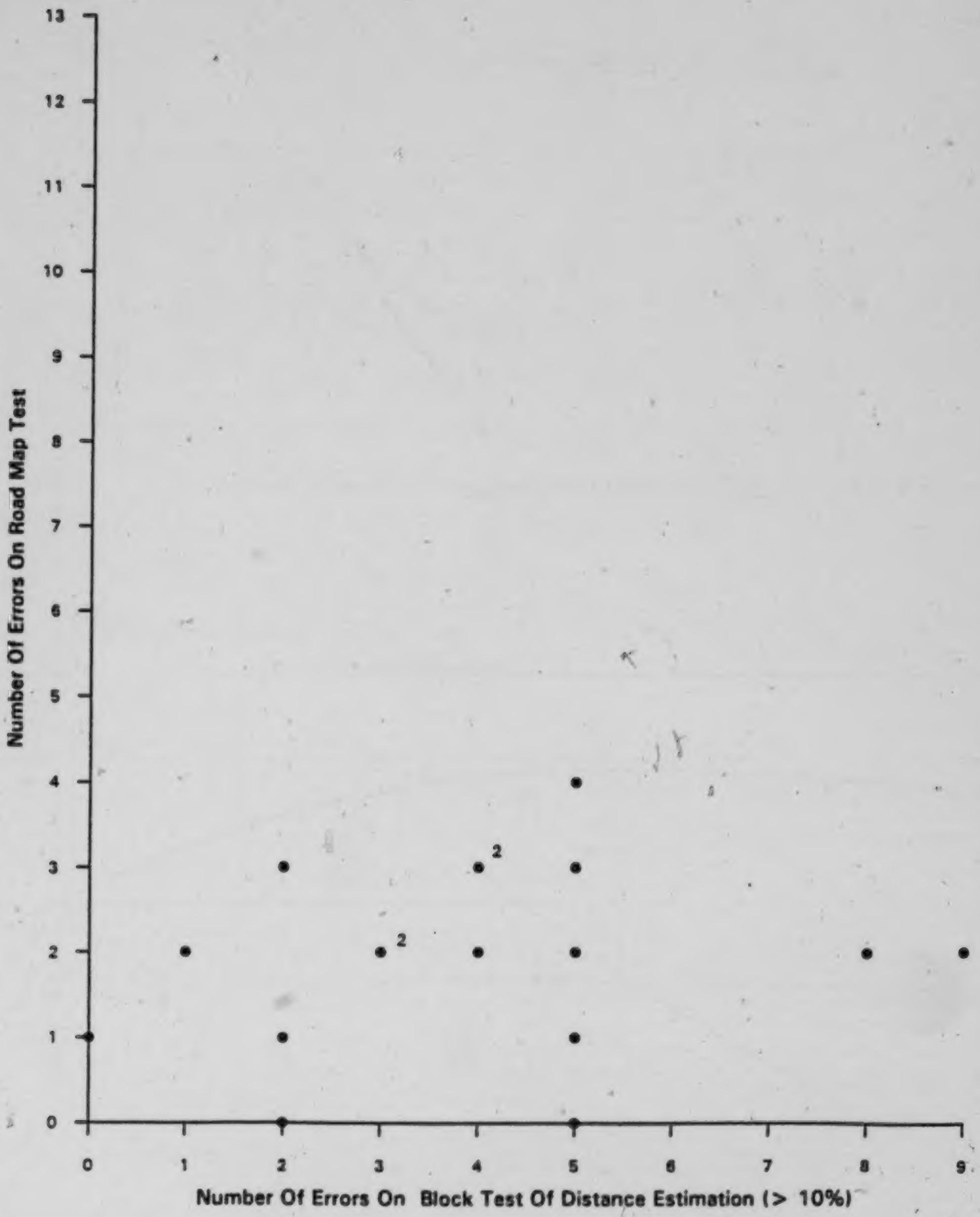

Figure 3.0 Number of Errors on Block Test of Distance Estimation (>10%) as Correlated With the Number of Errors on the Road Map Test of Directional Sense (Brain Injured Data Only)

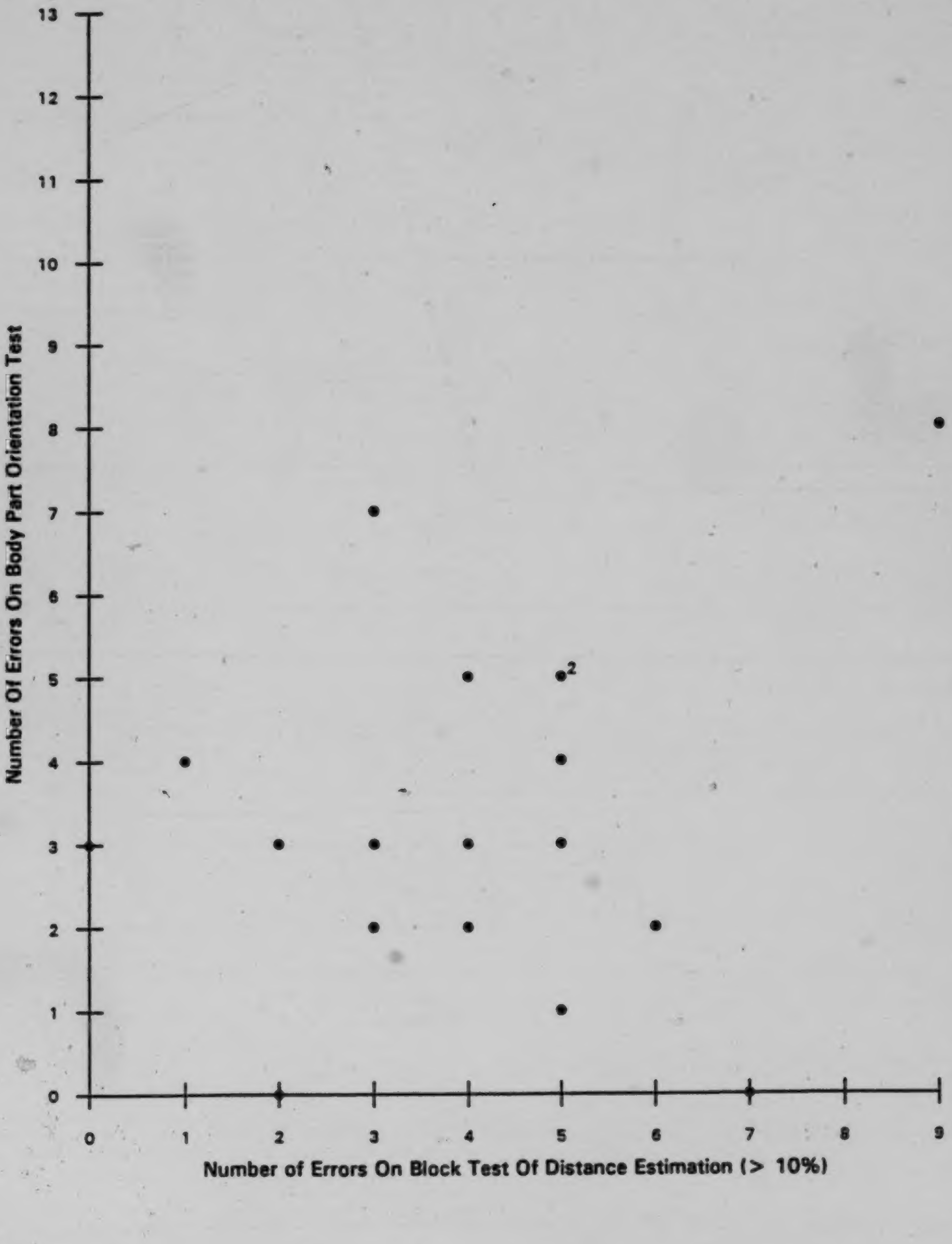

Figure 4.0 **Number of Errors on Block Test of Distance Estimation as Compared to Number of Errors on Body Part Orientation Test (Brain Injured Data Only)**

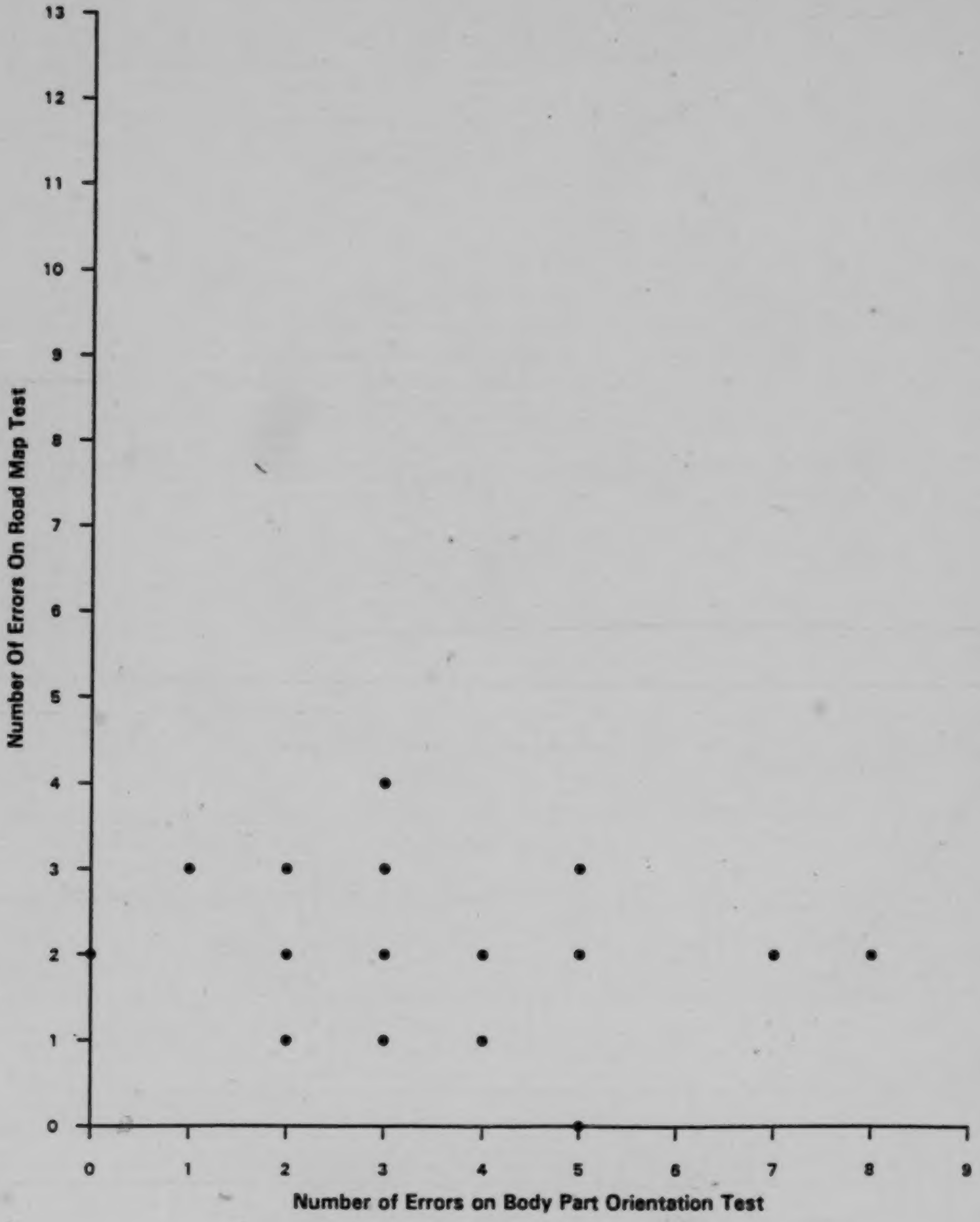

Figure 5.0 Number of Errors on Body Part Orientation Test Compared to Number of Errors on Road Map Test of Directional Sense (Brain Injured Data Only)

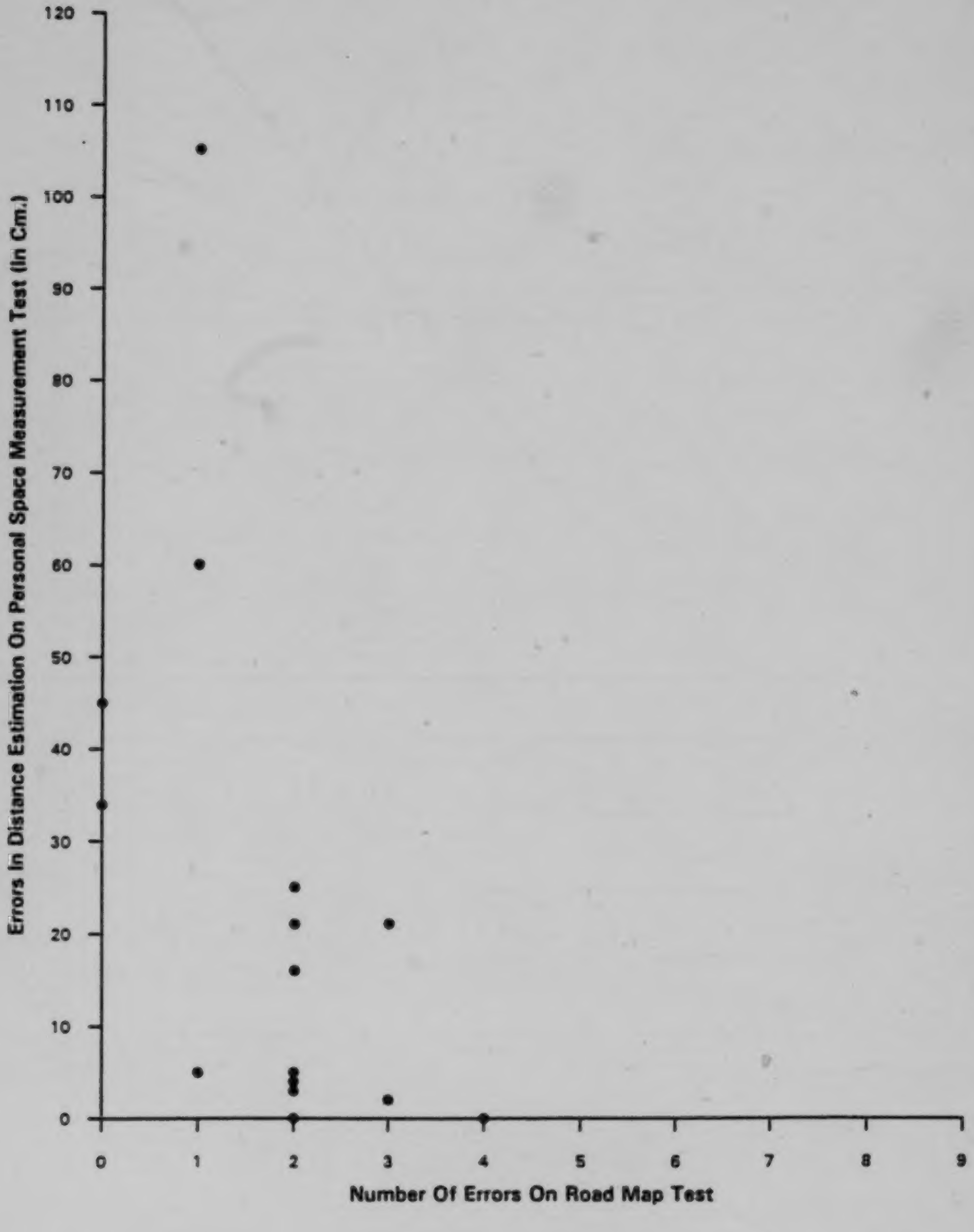

Figure 6.0 Number of Errors on Road Map Test of Directional Sense as Compared to the Degree of Error in Personal Space Estimation (Brain Injured Data Only)

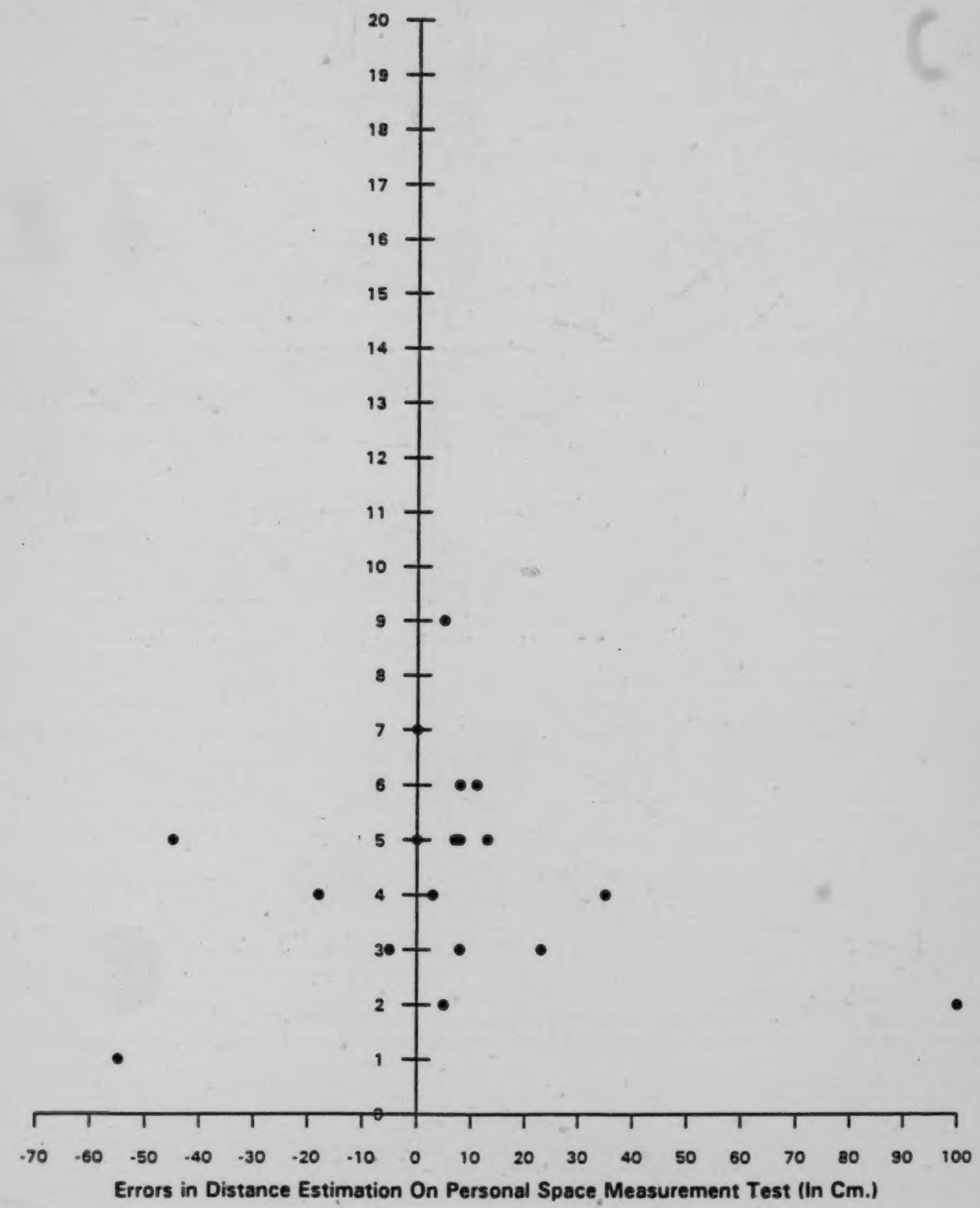

Figure 7.0 Number of Errors on Block Test as Compared to Magnitude of Errors in Estimating Interpersonal Space (Brain Injured Data Only)

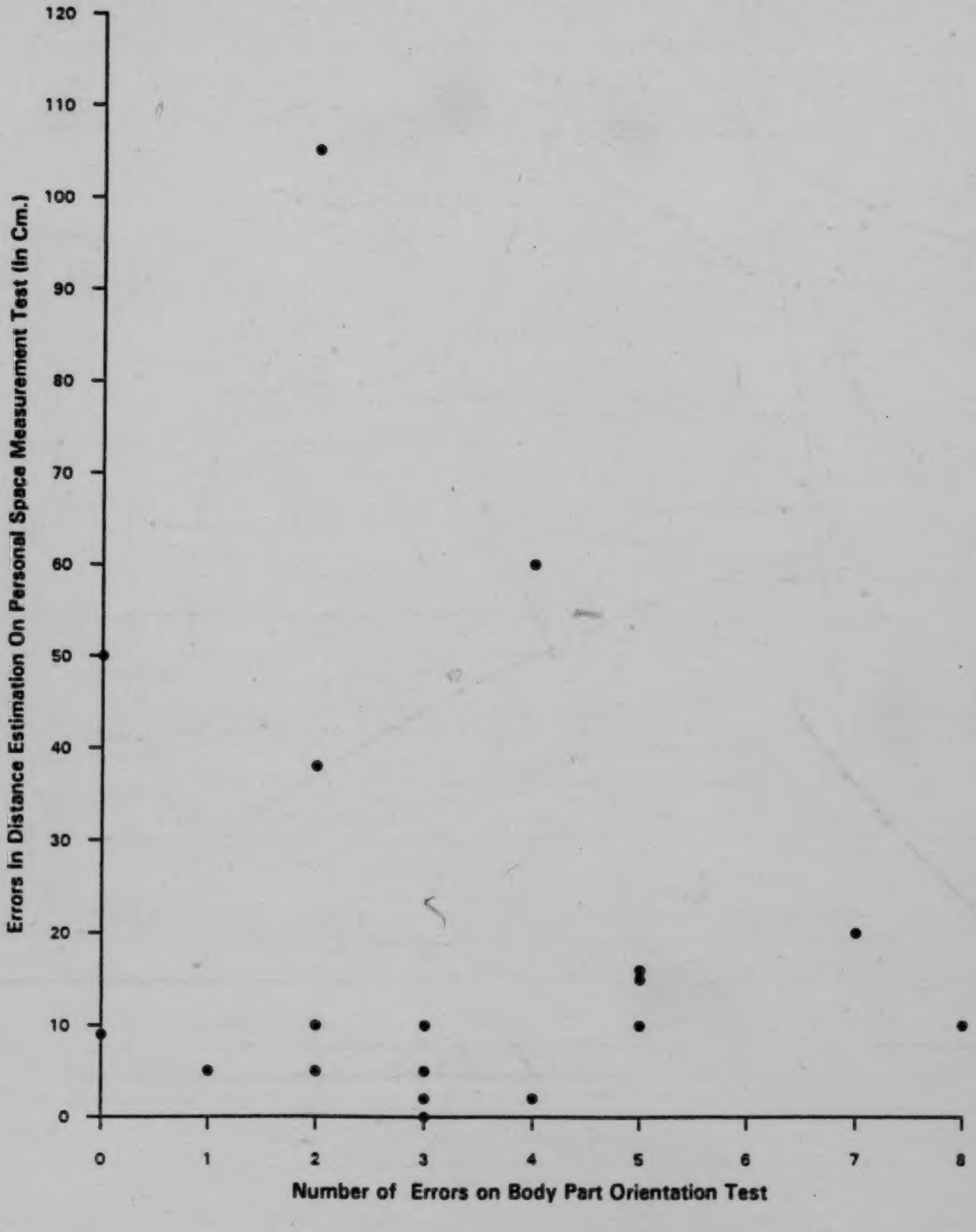

Figure 8 Number of Errors on Body Part Orientation Test as Compared to the Magnitude of Errors in Personal Space Estimation (Brain Injured Data Only)

APPENDIX F - SPSSX PROGRAM SET-UP

PERSONAL SPACE IN THE SPATIALLY DISORIENTED

```
  1  0  TITLE PERSONAL SPACE IN THE SPATIALLY DISORIENTED
  2  0  File handle anitdat/name='anitdat'
  3  0  Data list file=anitdat records=3
  4  0    /v1 1-3 v2 4-5 v3 6 v4 7 v5 8 v6 9 v7 10 v8 11 v9 12 v10 13 v11 14 v12 15
  5  0    v13 16 v14 17 v15 18-19 v16 21 v17 22 v18 23 v19 24 v20 25 v21 27 v22 28
  6  0    v23 29 v24 30 v25 31 v26 32 v27 33 v28 35 v29 36 v30 37 v31 38 v32 39 v33 40
  7  0    v34 42-44 v35 45-46 v36 47-49 v37 50-52 v38 53-55 v39 56-58 v40 59-60
  8  0    v41 61-63 v42 64-66 v43 67-69 v44 71-73 v45 74-76 v46 78-80
  9  0    /v47 1-3 v48 5-7 v49 8-10 v50 12 v51 14-16 v52 18-20 v53 21-23 v54 25
 10  0    v55 27-29 v56 30-32 v57 33 v58 34 v59 36-38 v60 39-41 v61 42 v62 43
 11  0    v63 45-47
 12  0    v64 48-50 v65 51-53 v66 54 v67 56-58 v68 59-61 v69 63-65 v70 66-68
 13  0    v71 71-72
 14  0    v72 73-75 v73 77-79
 15  0    /v74 1-3 v75 5-7 v76 9-11 v77 12-14 v78 15-17 v79 19 v80 20 v81 21 v82 22 v83 23
 16  0

THE COMMAND ABOVE READS   3 RECORDS FROM ANITDAT

           VARIABLE   REC  START    END         FORMAT  WIDTH  DEC

           V1           1      1      3         F           3    0
           V2           1      4      5         F           2    0
           V3           1      6      6         F           1    0
           V4           1      7      7         F           1    0
           V5           1      8      8         F           1    0
           V6           1      9      9         F           1    0
           V7           1     10     10         F           1    0
           V8           1     11     11         F           1    0
           V9           1     12     12         F           1    0
           V10          1     13     13         F           1    0
           V11          1     14     14         F           1    0
           V12          1     15     15         F           1    0
           V13          1     16     16         F           1    0
           V14          1     17     17         F           1    0
           V15          1     18     19         F           2    0
           V16          1     21     21         F           1    0
           V17          1     22     22         F           1    0
           V18          1     23     23         F           1    0
           V19          1     24     24         F           1    0
           V20          1     25     25         F           1    0
           V21          1     27     27         F           1    0
           V22          1     28     28         F           1    0
```

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13:56:16    University of Alberta

            V23            1     29     29          F            1    0
            V24            1     30     30          F            1    0
            V25            1     31     31          F            1    0
            V26            1     32     32          F            1    0
            V27            1     33     33          F            1    0
            V28            1     35     35          F            1    0
            V29            1     36     36          F            1    0
            V30            1     37     37          F            1    0
            V31            1     38     38          F            1    0
            V32            1     39     39          F            1    0
            V33            1     40     40          F            1    0
            V34            1     42     44          F            3    0
            V35            1     45     46          F            2    0
            V36            1     47     49          F            3    0
            V37            1     50     52          F            3    0
            V38            1     53     55          F            3    0
            V39            1     56     58          F            3    0
            V40            1     59     60          F            2    0
            V41            1     61     63          F            3    0
            V42            1     64     66          F            3    0
            V43            1     67     69          F            3    0
            V44            1     71     73          F            3    0
            V45            1     74     76          F            3    0
            V46            1     78     80          F            3    0
            V47            2      1      3          F            3    0
            V48            2      5      7          F            3    0
            V49            2      8     10          F            3    0
            V50            2     12     12          F            1    0
            V51            2     14     16          F            3    0
            V52            2     18     20          F            3    0
            V53            2     21     23          F            3    0
            V54            2     25     25          F            1    0
            V55            2     27     29          F            3    0
            V56            2     30     32          F            3    0
            V57            2     33     33          F            1    0
            V58            2     34     34          F            1    0
            V59            2     36     38          F            3    0
            V60            2     39     41          F            3    0
            V61            2     42     42          F            1    0
            V62            2     43     43          F            1    0
            V63            2     45     47          F            3    0
            V64            2     48     50          F            3    0
            V65            2     51     53          F            3    0
            V66            2     54     54          F            1    0
            V67            2     56     58          F            3    0
            V68            2     59     61          F            3    0
            V69            2     63     65          F            3    0
            V70            2     66     68          F            3    0
            V71            2     71     72          F            2    0
            V72            2     73     75          F            3    0
            V73            2     77     79          F            3    0
            V74            3      1      3          F            3    0
            V75            3      5      7          F            3    0
            V76            3      9     11          F            3    0
```

```
28 Aug 89   PERSONAL SPACE IN THE SPATIALLY DISORIENTED
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            V77          3     12     14          F          3   0
            V78          3     15     17          F          3   0
            V79          3     19     19          F          1   0
            V80          3     20     20          F          1   0
            V81          3     21     21          F          1   0
            V82          3     22     22          F          1   0
            V83          3     23     23          F          1   0

END OF DATALIST TABLE

  17  0  VARIABLE LABELS
  18  0      v1    'id'
  19  0      v2    'age'
  20  0      v3    'sex'
  21  0      v4    'difficulties sleeping'
  22  0      v5    'headaches frequency'
  23  0      v6    'headaches severity'
  24  0      v7    'headaches duration'
  25  0      v8    'enjoy meeting new people'
  26  0      v9    'easy to start conversation'
  27  0      v10   'shyness with strangers'
  28  0      v11   'stranger stands too close'
  29  0      v12   'people crowd in elevator'
  30  0      v13   'how far a friend should stand'
  31  0      v14   'museum conversation how far'
  32  0      v15   'how far an arms reach is'
  33  0      v16   'corner one'
  34  0      v17   'corner two'
  35  0      v18   'corner three'
  36  0      v19   'corner four'
  37  0      v20   'corner five'
  38  0      v21   'left arm'
  39  0      v22   'right arm'
  40  0      v23   'left leg'
  41  0      v24   'right eye'
  42  0      v25   'left arm'
  43  0      v26   'right ear'
  44  0      v27   'left eye'
  45  0      v28   'right arm'
  46  0      v29   'left arm'
  47  0      v30   'right leg'
  48  0      v31   'left leg'
  49  0      v32   'right ear'
  50  0      v33   'left ear'
  51  0      v34   'ninety cm'
  52  0      v35   'thirty cm'
  53  0      v36   'hundred twenty cm'
  54  0      v37   'sixty cm'
  55  0      v38   'hundred fifty cm'
  56  0      v39   'hundred twenty cm'
  57  0      v40   'thirty cm'
  58  0      v41   'ninety cm'
  59  0      v42   'hundred fifty cm'
```

```
 60  0      v43   'sixty cm'
 61  0      v44   'stop distance trial'
 62  0      v45   'repeat stop distance tr'
 63  0      v46   'first estimated'
 64  0      v47   'first measured'
 65  0      v48   'left angle estimated'
 66  0      v49   'left angle measured'
 67  0      v50   'did you see me clearly'
 68  0      v51   'left angle est at two metres'
 69  0      v52   'repeat left angle est'
 70  0      v53   'repeat left angle meas'
 71  0      v54   'did you see clearly'
 72  0      v55   'measured stop left side'
 73  0      v56   'estimated left side'
 74  0      v57   'which direction walking'
 75  0      v58   'you saw me clearly'
 76  0      v59   'estimated stop right'
 77  0      v60   'measured stop right'
 78  0      v61   'which position walking'
 79  0      v62   'how clearly seen'
 80  0      v63   'estimated right angle at 2 m'
 81  0      v64   'estimated stop right angle'
 82  0      v65   'measured stop right angle'
 83  0      v66   'how clearly seen'
 84  0      v67   'repeat right angle estimated'
 85  0      v68   'repeat right angle meas'
 86  0      v69   'sub turned left estimat very'
 87  0      v70   'sub turned left measured very'
 88  0      v71   'sub turned right est very'
 89  0      v72   'sub turned left est very'
 90  0      v73   'estimated front very'
 91  0      v74   'measured front very'
 92  0      v75   'estimat front repeat slightly'
 93  0      v76   'measured front repeat slightly'
 94  0      v77   'roles switched estim'
 95  0      v78   'roles switched measured'
 96  0      v79   'are you still uncomfortable'
 97  0      v80   'when subject or exp walking'
 98  0      v81   'how felt diring experiment'
 99  0      v82   'experiment boring or interesting'
100  0      v83   'data used or destroyed'
101  0   VALUE LABELS
102  0      v2
103  0       00 'nr'/
104  0      v3
105  0       1 'male'  2 'female'  0 'nr'/
106  0      v4
107  0       1 'yes'  2 'no'  0 'nr'/
108  0      v5
109  0       1 'everyday' 2 'few times a week'  3 'few times a month'
110  0       4 'less than once a month'  5 'never'  0 'nr'/
111  0      v6
112  0       1 'very severe'  2 'severe'  3 'moderate'  4 'mild'  9 'nr'/
113  0      v7
```

```
114  0      1 'the whole day'  2 'a couple of hours'  3 'few minutes'
115  0      4 'other'  9 'nr'/
116  0     v8
117  0      1 'yes-a lot'  2 'yes-a little'  3 'no- dislike a lot'
118  0      4 'no-dislike a little'  9 'nr'/
119  0     v9
120  0      1 'very easy'  2 'quite easy'  3 'quite hard'  4 'very hard'
121  0      5 'nr'/
122  0     v10
123  0      1 'yes'  2 'no' 9 'nr'/
124  0     v11 to v12
125  0      1 'almost always'  2 'often or usually'
126  0      3 'sometimes or rarely'  4 'never'  9 'nr'/
127  0     v13
128  0      1 'closer than arms reach'  2 'beyond arms reach'
129  0      3 'at arms reach'  9 'nr'/
130  0     v14
131  0      1 'closer than arms reach'  2 'at arms reach'
132  0      3 'at arms reach'  9 'nr'/
133  0     v15
134  0      99 'nr'/
135  0     v16 to v33
136  0       1 'correct'  2 'error'  9 'nr'/
137  0     v34
138  0      999 'nr'/
139  0     v35
140  0      99 'nr'/
141  0     v36 to v39
142  0      999 'nr'/
143  0     v40
144  0      99 'nr'/
145  0     v41 to v43
146  0      999 'nr'/
147  0     v44 to v49
148  0      999 'nr'/
149  0     v50
150  0      1 'yes'  2 'no'/
151  0     v51 to v53
152  0      999 'nr'/
153  0     v54
154  0      1 'yes'  2 'no'  9 'nr'/
155  0     v55 to v56
156  0      999 'nr'/
157  0     v57
158  0      1 'left'  2 'right'  9 'nr'/
159  0     v58
160  0      1 'yes'  2 'no'  9'nr'/
161  0     v59  to v60
162  0      999 'nr'/
163  0     v61
164  0      1 'right'  2 'left'  9 'nr'/
165  0     v62
166  0      1 'yes'  2 'no'  9 'nr'/
167  0     v63 to v65
```

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 168  0        999 'nr'/
 169  0       v66
 170  0        1 'yes'  2 'no'  9 'nr'/
 171  0       v67 to v77
 172  0        999 'nr'/
 173  0       v78
 174  0        1 'yes'  2 'no'  9 'nr'/
 175  0       v79
 176  0        1 'when subject'  2 'when experimenter'  3 'no difference'
 177  0        9 'nr'/
 178  0       v80
 179  0        1 'relaxed'  2 'tense'  9 'nr'/
 180  0       v81
 181  0        1 'interesting'  2 'boring'  9 'nr'/
 182  0       v82
 183  0        1 'use'  2 'destroy'  9 'nr'/
 184  0       v83
 185  0        1 'yes'  2 'no'  9 'nr'/
 186  0    MISSING VALUES  v2 (00) v3 to v5, v11 to v12 (0)
 187  0     v6 to v10, v13 to v14, v16 to v33, v50, v54, v57 to v58, v61 to
 188  0     v66, v79 to v83 (9) v34, v36 to v39, v41 to v43, v44 to v49,
 189  0     v51 to v53, v55 to v56, v59 to v60, v67 to v77 (999),
 190  0     v15, v39, v40 (99)
 191  0    LIST VARIABLES=V44 to V78

There are 58688 bytes of memory available.
The largest contiguous area has 58688 bytes.

      1475 BYTES OF MEMORY REQUIRED FOR LIST PROCEDURE.
       320 BYTES HAVE ALREADY BEEN ACQUIRED.
      1155 BYTES REMAIN TO BE ACQUIRED.
```

APPENDIX G. - AUTHOR'S STOP DISTANCE PROCEDURE DATA

Anita's Data

```
   :   PERSONAL SPACE IN THE SPATIALLY DISORIENTED
       University of Alberta

                          V                V           V V
                          5                5           5 5
  V45  V46  V47  V48  V49 0  V51  V52  V53 4  V55  V56 7 8  V59  V60  V61  V62  V63  V64  V65  V66  V67  V68  V69  V70  V71  V72  V73  V74  V75  V76  V77  V78

  106   75   75   75   97 1  180   60   80 1   60   71 1 1   60   65    1    1  180   75   73    1   60   65   30   36   30   41   30   33  999   45   45   55
   80   60   70   68   70 1  150   65   77 1   60   63 1 1   60   69    1    1  150   60   70    1   60   65   30   39   30   40   20   34  999   46   62   64
  107  105  115   90  107 9  180   90  100 1  120   94 1 1   60   99    1    1  180  899  104    9  999   89   60   62   60   62   75   65  999   92   75   77
   82   60   77   45   80 1  150   90  101 1   75   84 1 1  999   90    1    1  150   75   84    1   75   82   75   61   45   66   60   78   90   95   90   95
   57   30   47   30   65 1  200   30   60 1   30   50 1 1   30   45    1    1  200   30   47    1   30   50   10   25   10   25    5   22   30   46   30   32
  127   60  115   60  110 1  120   60  105 1   45   98 1 9   60  117    1    1  120   45  112    1   45  100   30   62   45   77   30   50   70  100   40   74
  104   75  122   75  114 1  150   75  127 1   90  120 1 1   75  120    1    1  150   75  122    1   75  123   13   38   13   35    8   22   90  129   45   75
   25   45   38   30   23 1  210   30   27 1   25   22 1 1   20   27    1    1  180   30   30    1   25   27   20   22   15   20   15   20  999   43  999   37
   78   90   80   75   89 1  175   90   94 1   88  107 9 1  105  113    1    1  175   10   11    4  113  114   60   71   60   71  105  115  120  120   70   65
  110   91  109   90  109 1  182   90   98 1   90   99 1 1   90   99    1    1  150   90  110    1   90   98   60   50   60   67   60   68   90  105   90   88
   90   75   97   75   82 1  182   75   82 1   75   72 9 9   82   68    1    1  180   75   83    1   75   74   60   60   60   54   60   53   75   85   75   53
   25   30   30   45   43 1  150   48   53 1   30   24 1 1   30   20    1    1  999   35   40    1   30   30   30   24   30   17   30   24   33   37   33   40
   26   20   27   20   22 9  210   20   22 1   10   22 1 1   15   22    1    1  180   10   20    1   15   20   10   19   15   15   15   20   15   19   10   17
  125   38  125   25  100 1   51   25  107 1   25   93 1 1   15  100    2    1   63   15  102    1   15   15   10   95   12  100   10   93   25  118   15   70
   57   90   44   90   50 1  180   90   50 9  999   54 9 9   30   33    1    9  255   45   51    1   45   50   30   39   45   40   90   73   90   63   90   45
   35   67   60   45   44 1  120   60   47 1   30   40 1 1   60   65    1    1  270   12   32    1   45   45   63   50   25   33   38   48   30   28   27   26.
   67   60   61   60   58 1  150   60   52 1   60   60 1 1   60   49    1    1  165   50   60    1   60   56   60   44   60   39   60   31   60   37   30   17
   60   98   83   30   22 9  287   30   20 1   60   32 1 1   77   48    1    1  104   35   40    1   35   33    0   10   38   33   15   15   38   47  999   20
   87   90   97   90   97 1  150   90  102 1   90   97 1 1   90   85    1    1  150   90   98    9   90   87   90   90   90   77   90   95   90  999   90   72
  112  180  120   30   39 1  390  180   28 1   30   24 1 1   20   28    9    1  180   25   10    1   48   19   90  140   75   98   45   53   45   52  150   98
   10   15   10   15   10 1  240   15   10 9   20   20 1 9   20   15    9    9  240   55   10    1   20   15   15   10   15   10   15   10   10   15    0   15
  121  120  127  120  129 1  210  120  128 1  135  135 1 1  135  124    1    1  195  120  117    1  999  122  105   91    5   90  105   93  105  103  105   95
   90   90   93  105  105 1  180   90   97 1  100   90 1 1   90   85    1    1   88  105   94    1   90   96  105   92   90   88   90   75   90   85   90   55
   60   60   42   60   68 1  180   60   68 1  145   54 1 1   60   40    1    1  999   90  999    9  999  999  999   43   99  999    8    5  999  999  999    7
  122  150  157   75   41 1  195  120  127 1   75   63 1 1  135  113    1    1  270  210  167    1  225  178  120  108   75   97   90  130  135  180   90  118
   99   75  111   75  108 1  105   75  125 1   75  120 2 1   75  123    2    1  105   75  128    1   75  127   34   97   45  107   75  118   30   90   30   83
  125  120  120  105  107 1  180  105  113 1  120    3 1 1   90   80    1    1  165  105  100    1  105  100   90   89    5   91   45   52  135  128   75   75

  R OF CASES READ =        27    NUMBER OF CASES LISTED =        27
```

Note: The first column of the data has been lost.

APPENDIX H - SUPERVISOR'S STOP DISTANCE PROCEDURE DATA

PERSONAL SPACE IN THE SPATIALLY DISORIENTED
University of Alberta

Dr. Hayduk's Data

V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58	V59	V60	V61	V62	V63	V64	V65	V66	V67	V68	V69	V70	V71	V72	V73	V74	V75	V76	V77	V78
106	75	75	75	97	1	180	60	80	1	60	71	1	1	60	65	1	1	180	75	73	1	60	65	30	36	30	41	30	33	999	45	45	55
77	60	70	68	70	1	150	65	77	1	60	63	1	1	60	69	1	1	150	60	70	1	60	65	30	39	30	40	20	34	999	46	62	64
117	107	117	91	107	9	183	90	100	1	122	94	1	1	62	99	1	1	180	999	105	9	999	89	60	62	60	62	75	65	999	92	75	77
80	61	77	46	80	1	150	92	101	1	79	84	1	1	999	90	1	1	157	75	84	1	75	82	75	61	45	66	60	10	90	95	90	95
57	30	45	32	65	1	200	32	60	1	33	50	1	1	33	47	1	1	200	30	47	1	30	50	10	25	10	25	5	22	30	46	30	32
27	60	115	60	110	1	120	60	105	1	45	98	1	9	60	117	1	1	120	45	112	1	45	100	30	62	45	77	30	50	70	100	40	74
104	75	122	75	114	1	150	75	127	1	90	120	1	1	75	120	1	1	150	75	122	1	75	123	13	38	13	35	8	22	90	129	45	75
25	45	38	30	23	1	210	30	27	1	25	22	1	1	20	27	1	1	180	30	30	1	25	27	20	22	15	20	15	20	999	43	999	37
78	91	82	77	89	1	174	92	94	1	89	107	9	1	107	113	1	1	179	10	11	4	114	114	60	71	60	71	105	115	120	120	70	65
110	92	110	91	109	1	182	90	99	1	92	99	1	1	90	99	1	1	160	90	110	1	93	98	60	50	60	67	60	69	97	108	90	88
85	77	98	77	82	1	182	78	82	1	75	72	9	9	82	68	1	1	180	75	83	1	75	74	60	60	60	54	60	53	75	85	75	53
25	30	30	45	43	1	150	48	53	1	30	24	1	1	30	20	1	1	999	35	40	1	30	30	30	24	30	17	30	24	33	37	33	40
26	20	27	20	22	9	210	20	22	1	10	22	1	1	15	22	1	1	180	10	20	1	15	20	10	19	15	15	15	20	15	19	10	17
25	20	125	20	20	1	51	25	107	1	25	93	1	1	15	100	2	1	63	15	102	1	15	15	10	95	12	100	10	93	25	118	15	70
57	90	44	90	50	1	180	90	50	9	999	54	9	9	30	33	1	9	255	45	51	1	45	50	30	39	45	40	90	73	90	63	90	45
35	67	60	45	44	1	120	60	47	1	30	40	1	1	60	65	1	1	270	12	32	1	45	45	63	50	25	33	38	48	30	28	27	26
67	60	61	60	58	1	150	60	52	1	60	60	1	1	60	49	1	1	165	50	60	1	60	56	60	44	60	39	60	31	60	37	30	17
60	98	83	30	22	9	287	30	20	1	60	32	1	1	77	48	1	1	404	35	40	1	35	33	0	10	38	33	15	15	38	47	999	20
88	90	98	90	97	1	150	90	102	1	90	97	1	1	90	85	1	1	150	90	98	9	90	87	90	90	90	77	90	95	90	999	90	72
112	180	120	30	39	1	390	180	28	1	30	24	1	1	20	28	9	1	180	25	10	1	48	19	90	140	75	98	45	53	45	52	150	98
10	15	10	15	10	1	240	15	10	9	20	20	1	9	20	15	9	9	240	55	10	1	20	15	15	10	15	10	15	10	10	15	0	15
121	120	127	120	129	1	210	120	128	1	135	135	1	1	135	124	1	1	195	120	117	1	999	122	105	91	5	90	105	93	105	103	105	95
90	90	93	105	105	1	180	90	97	1	100	90	1	1	90	85	1	1	88	105	94	1	90	96	105	92	90	88	90	75	90	85	90	55
60	60	42	60	68	1	180	60	68	1	145	54	1	1	60	40	1	1	999	90	999	9	999	999	999	43	99	999	8	5	999	999	999	7
122	150	157	75	41	1	195	120	127	1	75	63	1	1	135	113	1	1	270	210	167	1	225	178	120	108	75	97	90	130	135	180	90	118
99	75	111	75	108	1	105	75	125	1	75	120	2	1	75	123	2	1	105	75	128	1	75	127	34	97	45	107	75	118	30	90	30	83
125	120	120	105	107	1	180	105	113	1	120	3	1	1	90	80	1	1	165	105	100	1	105	100	90	89	5	91	45	52	135	128	75	75

ER OF CASES READ = 27 NUMBER OF CASES LISTED = 27

Note: The first column of the data has been lost.

APPENDIX J - BIBLIOGRAPHY

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